

United States Pacific Command

Asia-Pacific Economic Update



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Volume 2

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ASIA-PACIFIC ECONOMIC UPDATE 2002
VOLUME TWO:
CONNECTING ECONOMICS TO SECURITY

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Volume 2

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NOTE

To avoid confusion in comparing data, this report classifies the "Asia-Pacific" economies as including Japan, Australia, New Zealand, "IMFs Developing Asia," and North Korea.

Table A
International Monetary Fund's (IMF) Developing Asia

AFGHANISTAN*	HONG KONG SAR	MALAYSIA	PAKISTAN*	THAILAND
BANGLADESH	INDIA	MALDIVES	PALAU (BELAU)	TONGA
BHUTAN	INDONESIA	MARSHALL ISL.	PAPUA NEW GUINEA	TUVALU
BRUNEI	CAMBODIA	MICRONESIA, F.S.	PHILIPPINES	VANUATU
BURMA (MYANMAR)	KIRIBATI	MONGOLIA	SAMOA, AMERICAN	VIETNAM
CHINA, P.R.	KOREA, SOUTH	NAURU	SINGAPORE	W. SAMOA
FIJI	LAOS	NEPAL	SOLOMON IS.	TAIWAN
FR. POLYNESIA	MACAU	NEW CALEDONIA	SRI LANKA	

Source: IMF, *Direction of Trade Statistics*

* - Not in USPACOM Area of Responsibility

IMF recently designated the economies in **bold** (South Korea, Singapore, Taiwan, and Hong Kong) as "New Industrialized Economies" (NIEs) and as "Advanced Economies." Some reports do not list the NIEs under Developing Asia. However, for the purpose of presenting consistent historical trends in this report, the above grouping is used, unless otherwise noted. Also, South Korea was given Industrialized Country status when it was admitted to the Organization for Economic Cooperation and Development (OECD) in 1997. IMF reports Hong Kong Special Administrative Region (SAR) as a distinct customs territory—separate from China.

The U.S. Pacific Command's Area of Responsibility (AOR) also includes North Korea and three Indian Ocean islands (Comoros, Madagascar, and Mauritius), but not Afghanistan or Pakistan.

VOLUME TWO: ECONOMIC SECURITY EXECUTIVE SUMMARY

The three decades of economic growth in the Asia-Pacific region demonstrated to the world that economic prosperity through international trade and investment improves the domestic and international security for all participants.

- In 1973, the Asia-Pacific region accounted for just 15% of the world's economic output. By 2000, the region's share was 27% of world output when measured on an exchange rate basis.
- Today, when measured on a purchasing power basis, the Asia-Pacific region is home to the world's second and third largest economies—China and Japan.

The region's growth reflects a combination of quantitative and qualitative factors. Also, when growth falters, the mismanagement of these factors is evident. These factors include:

- Relatively open economies characterized by vigorous trade and investment ties with the United States, Japan, and Europe.
- High inflows of capital and labor to modern, internationally-oriented sectors.
- High rates of national saving and aggressive investment in physical and human capital.
- Stable macroeconomic policies conducive to investment and commercial activity.
- Pro-market government interventions intended to steer resources into more productive activities.
- Reliance on cultural factors that value education and a strong work ethic.

Trade, investment, and aid are like steel girders in a bridge, buttressing the economies of the Asia-Pacific region and interlocking their common security.

- Developing Asia produced 20% of the world's total exports in 2000, while the United States exported 13% and Japan produced 8%.
- Asia-Pacific trade is multi-polar in nature, with neither the United States nor Japan being the single, dominant trade partner of Developing Asia.

Figure A

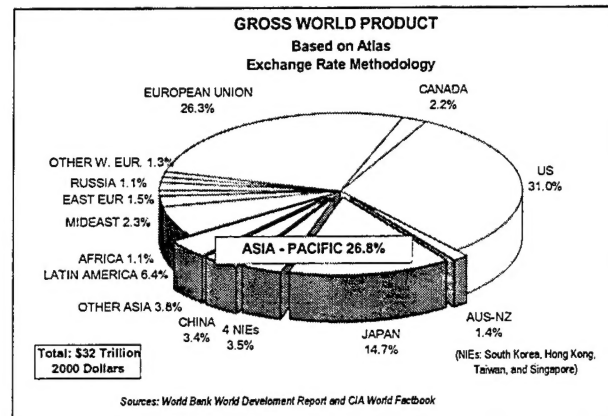


Figure B

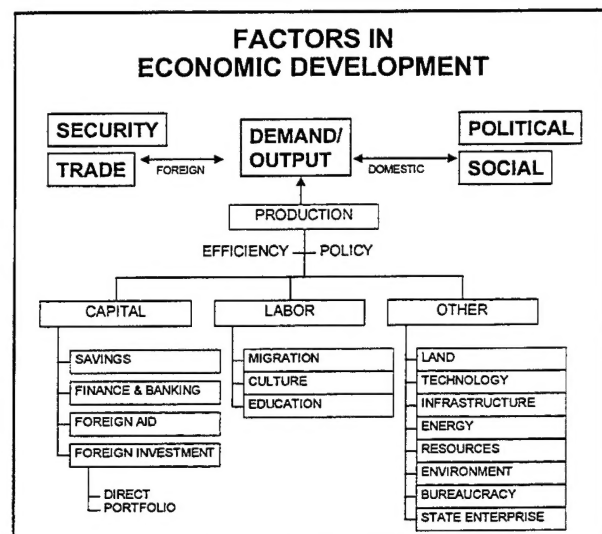
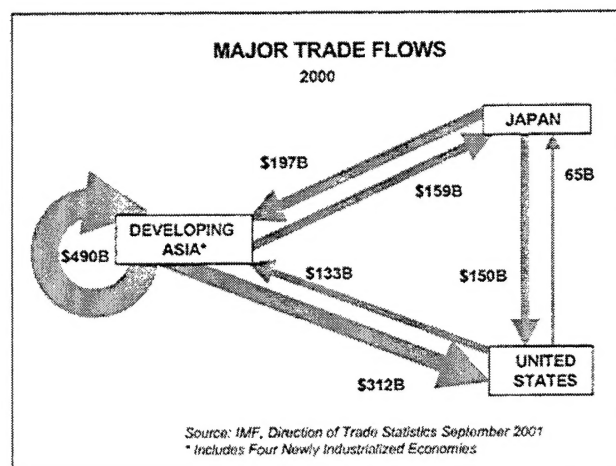


Figure C



- Foreign Direct Investment (FDI). Developing Asia is the major destination of world FDI into developing countries. It received \$61B in 2000, or 34% of all such flows. The Chinese economy received the largest part in 2000, \$42B, or 23% of all FDI flows into the developing world.
- Portfolio Investment. In 1993 portfolio investment began to expand dramatically in the region, as investors sought to profit from opportunities in the region. These investments plummeted in 1997 but subsequently resumed.
- Foreign aid continues to promote regional economic development, especially where private flows are unprofitable and where social benefits are key.

America benefits from our deepening economic inter-dependence with Asia-Pacific region, which has grown to become a vital American security interest. This interdependence is made possible by the security umbrella offered by U.S. presence.

- The Asia-Pacific region accounted for an estimated \$669B—or 33%—of total U.S. merchandise exports and imports in 2000.

Linkages. Some of the key linkage points in the network of international economic relations are energy, shipping, population and food, the environment, and defense spending.

Energy patterns in the Asia-Pacific region are driven by the interplay of traditional economic sectors—that generally rely on coal—and modern sectors that rely on oil.

- Japan is the world's second largest oil consumer, China ranks third, while South Korea is sixth.
- Oil accounted for 49% of the region's energy consumption in 2000, after excluding coal-intensive China and India.
- In both the United States and the Asia-Pacific region, oil consumption far exceeds indigenous production—making both increasingly vulnerable to political instability in the Middle East.

Figure D

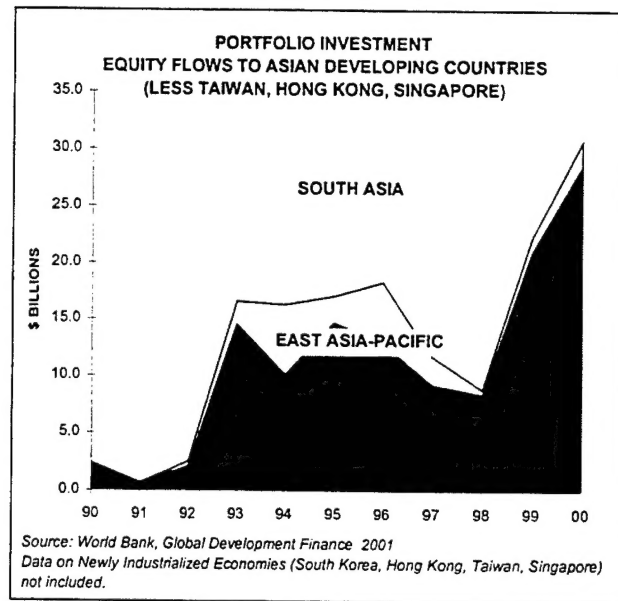
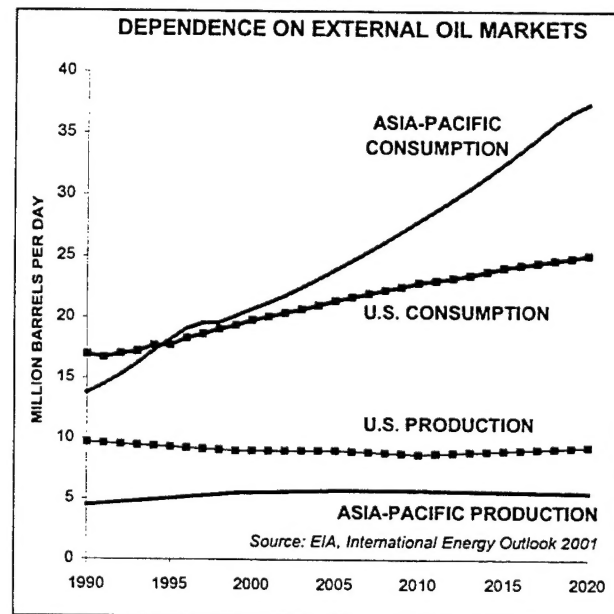


Figure E



Shipping's free flow along Asia-Pacific sea-lanes helps to maximize the region's trade and economic growth.

- All countries in the region have obvious economic interests in maintaining freedom of navigation, especially through the Strait of Malacca and the South China Sea.
- The existence of unresolved maritime and territorial claims in the South China Sea remains a source of potential instability to the region.
- Maritime piracy presents an ongoing threat to commercial shipping in Southeast Asia. The International Chamber of Commerce (ICC) International Maritime Bureau (IMB) Piracy Center in Kuala Lumpur, Malaysia, reported a worldwide increase in piracy of 57% to 469 cases in 2000. Asia was the site of 62% of these acts.
- Exclusive economic zones (EEZs) in the region are tested daily by foreign fishing fleets, as countries find it difficult to manage the resources in their EEZs.

Population and food security in the region are increasingly dependent on trade and transportation networks that links traditional agriculture with global food suppliers.

- The growth of the economies and populations of China and India—coupled with loss of arable land—increases global demand and prices for imported grain.
- Prudent governmental institutions are needed to ensure safe delivery of services to ever-increasing populations.

Environmental and resource issues are an underlying cause for many conflicts, disasters, or dislocations in the region.

- The military is often called upon to address these issues, whether for domestic or international purposes—during peacetime or war. Often, the military's supporting skills are in as much demand as their operational capabilities.
- Urban environmental issues will be especially costly for Asia's "megacities."

Figure F
Major Trade Routes and Straits

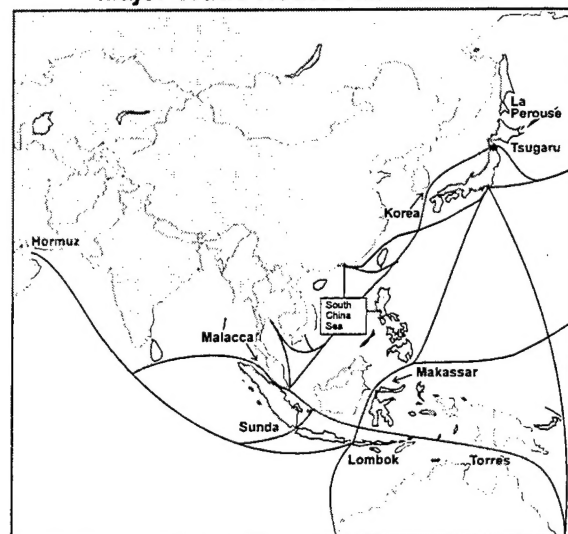


Figure G

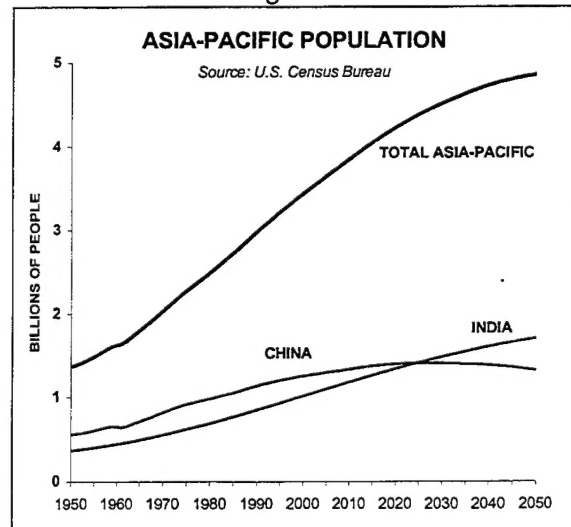


Figure H
Population of Asia's Megacities

City	World Rank	1995 Millions	2015 Millions
Tokyo JP	1	26.96	28.89
Bombay IN	5	15.14	26.22
Shanghai CH	6	13.58	17.97
Calcutta IN	8	11.92	17.31
Seoul KO	10	11.61	12.98
Beijing CH	11	11.30	15.57
Osaka JP	12	10.61	10.61
Delhi IN	15	9.95	16.86
Tianjin CH	19	9.42	13.53
Manila RP	20	9.29	14.66
Jakarta ID	22	8.62	13.92

Source: UN Population Division

Defense spending is driven by both supply factors (wealth, arms merchandizing) and demand factors (security of borders, international interests, and domestic conditions).

- Budget managers find it difficult to identify a steady-state for calculating equipment needs and operational costs.
- Bad calculations may derive from false signals due to the combination of internal civil stresses and external challenges from neighbors.
- Ultimately, budgets need to be fully rationalized using a building block-approach that links ends, ways, and means.

A special section of Volume Two examines the role of governance, i.e., the practices and institutions that make an organization internally efficient and externally effective.

Corporate Governance is a key problem among Asia-Pacific countries. Asian companies cling to family-oriented practices and resist modern business practices. Further, free, open markets for business, capital, and labor need a backbone of prudently managed, governmental watchdog institutions. This modernization of business practices is a difficult one because entrenched powers find it difficult to operate under the checks and balances offered by transparent institutions, rules, and standards.

Defense Governance is a fledgling concept for many Asia-Pacific countries with a history of using the military for internal security operations. The survey suggests the benefits of the separation of military and police functions, of civilian control of the military, of strategic transparency efforts, and of bilateral and multilateral security cooperation.

The way ahead for USCINCPAC is shaped by the complexities of global economic trends, the threat of international terrorism, and the need to formulate programs that positively shape the political, military, and economic equation.

Figure I: Sustainability

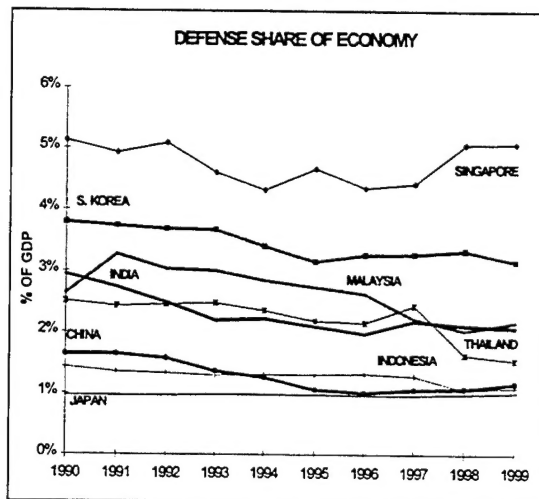
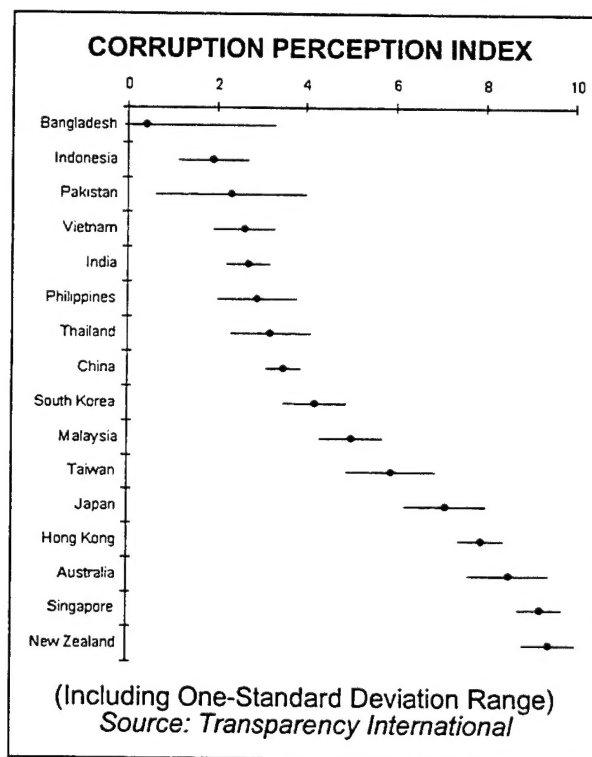


Figure J



SECTION I

THE ECONOMIC IMPORTANCE OF THE REGION

In the last 100 years we've fought seven foreign wars; five in part or in whole were in Asia. But due to political stability created by growth and prosperity in Asia, along with our military presence in the region, none of them came in the last 20 years.

*George Tenet
Central Intelligence Agency
January 28, 1998*

Because most of the globalizers—especially China, India, and Bangladesh—were among the poorest countries in the world twenty years ago, their growth has been a force for narrowing worldwide inequality.

*David Dollar and Art Kraay
World Bank Development Research Group
September 2001*

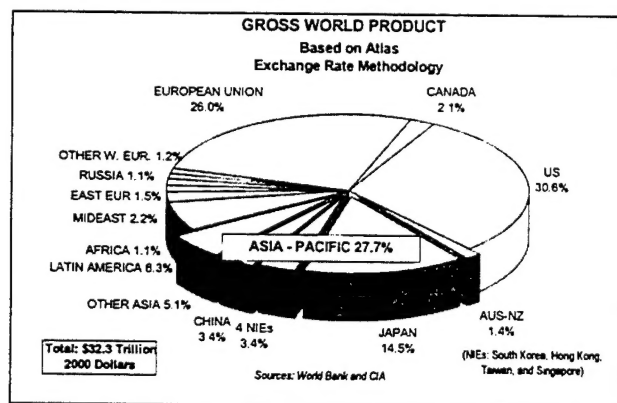
CHAPTER 1 THE GLOBAL ECONOMIC ROLE OF THE ASIA-PACIFIC REGION

In the aftermath of the Vietnam War, many countries of the Asia-Pacific region focused their attention on producing goods to satisfy the economic demand of the United States and Japan. This resourcefulness resulted in some of the fastest economic growth rates that the world has seen. Much of this prodigious growth was due to a reliance on market economics and a security umbrella maintained by the United States. This chapter looks back at Asia's historical dynamism in order to understand the region's current global economic role and its potential for long-term recovery from the Asian economic crisis.

Historic Asian Dynamism

Comparisons. In 1973, Asia accounted for just 15% of the world's economic output.¹ By 2000, the Asia-Pacific region's share was 27% of world output when measured on an exchange rate basis. Today, the total size of the Asia-Pacific region's output rivals those of the United States and the European Union (EU). (See Figure 1-A.) Using exchange rates, the world's second largest economy is Japan (14.7% of total), while China (3.4%) is sixth-largest.

Figure 1-A



However, exchange rates are subject to fluctuations and also force one to evaluate an entire economy based only on international trade and finance sectors. Therefore, technical adjustments are made using a second method, Purchasing Power Parity (PPP), to give weight to non-international, non-industrial markets.²

When using the PPP measure, the Asia-Pacific region far exceeds U.S. and EU totals, producing 34% of world output. (See Figure 1-B.) Further, by the PPP measure, China is the world's second largest economy (11.1% of total), followed by Japan (7.3%).

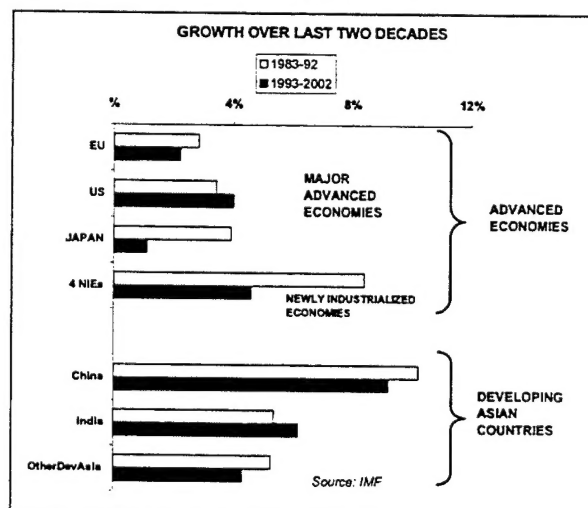
Figure 1-B
Comparison of Regional Output (2000)

	PPP	Exchange rate
Asia-Pacific	\$15.3T (33.9%)	\$8.5T (26.8%)
United States	\$9.6T (21.3%)	\$9.9T (31.0%)
EU	\$9.8T (21.6%)	\$8.4T (26.3%)
World	\$45.2 T	\$31.9T

Sources: World Bank and CIA

Growth. Despite growth fluctuations, Developing Asia has had a higher average economic growth than the industrialized United States, Japan, and the EU over the last two decades.³ (See Figure 1-C.) The status of the four Newly Industrialized Economies (NIEs) of South Korea, Taiwan, Hong Kong, and Singapore has transitioned from "developing" to "advanced," and they now see slower growth as their economies take on characteristics of industrialized economies. Among the developing economies, China has sustained the world's fastest growing economy over the last two decades, while India also has progressed at a respectable rate despite its high population and incidence of poverty.

See Figure 1-C



Fundamental Growth Factors

The region's growth reflects a combination of quantitative and qualitative factors. (See Figure 1-D.) When growth falters, their mismanagement is clearly identifiable.

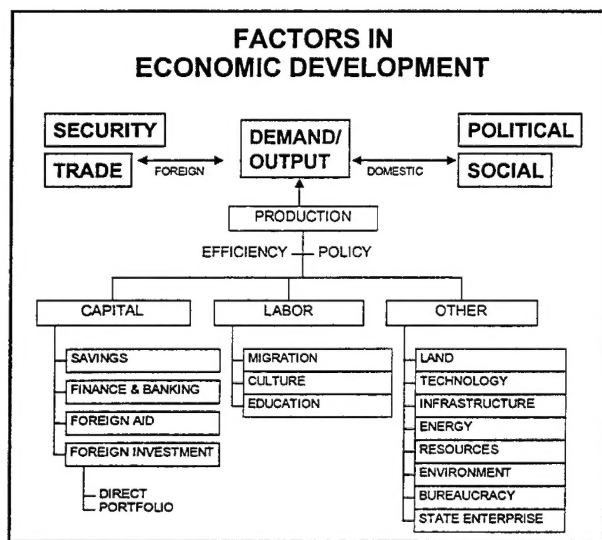
Quantitative Factors.

- Relatively open economies characterized by vigorous trade and investment ties with the United States, Japan, and Europe.
- High inflows of capital and labor to modern, internationally-oriented economic sectors
- High rates of national saving and aggressive investment in physical and human capital.

Qualitative Factors.

- Stable macroeconomic policies conducive to investment and commercial activity.
- Pro-market government interventions intended to steer resources into more productive activities.
- Reliance on cultural factors that value education and a strong work ethic.

Figure 1-D



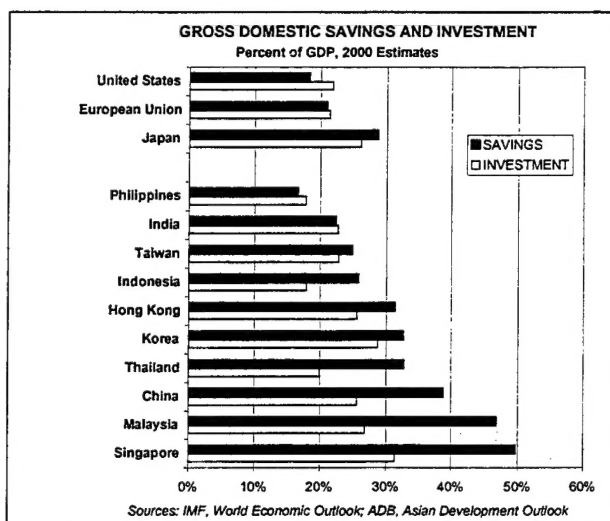
The Producer-Oriented Model. Huge demand from industrialized countries has been a key engine of growth for Asian exports.

- To satisfy demand, Asian producers blended a large inflow of cheap labor with large quantities of capital.
- This capital was obtained from domestic savings and foreign investment sources. (See Figure 1-E.)

- Asia's historic economic policies have promoted domestic investment—rather than consumption—by harnessing domestic savings and investment, profits from exports, and foreign investment.
- Japanese industrial policy typically followed this producer-oriented model, which promotes value-added industries supported by cheap, intermediate inputs from other Asian producers.
- However, this over-reliance on directing industrial output overlooked the benefits of competitive markets and the need for sound financial institutions.

Although Asia's economies were steeped in fairly immature business practices, their growth was sustained by an environment that was politically and socially stable.

Figure 1-E



Laborers, Consumers and Quality. From the mid-1990s, the countries of the Asia-Pacific have been emerging as lucrative consumer-oriented markets. This trend towards consumption is due to the promotion of qualitative factors that develop a middle-class base of well-paid workers.

Other Factors. Today, additional factors such as energy, population, the environment, transport, defense spending, infrastructure, and technology are crucial elements of the growth equation. (See Section II.) The future path these elements take will be largely determined by the quality of governance of the institutions in each country. (See Section III.)

Globalism and Growth⁴

The globalist prescription of these fundamental growth factors includes:

- Openness to international trade
- Macroeconomic stability
- Moderate size of government
- Developed financial markets
- Strong property rights, and
- Good rule of law.

Globalism, Growth, and Inequality. Contrary to claims by anti-globalists, participating in the global trading system helps increase average income and reduce poverty among the poorest segments.

- Non-participants lose-out and do not see economic growth. (See Figure 1-F.)
- Globalization benefits the poorest fifth of a country's society as much as it does to other segments. The poor are not left behind, but see a proportionate rise in income. (See Figure 1-G.)
- The income of the world's poor has risen dramatically, and the level of absolute poverty has dropped sharply, from 75% of the population in 1988 to 37% in 1998. Poverty was cut in half in only 10 years.⁵ (See Figure 1-H.)
- The per capita incomes of populous Asia-Pacific countries like China, India, and Bangladesh are much higher than two decades ago. On a worldwide basis, therefore, the distribution of individual wealth is now weighted closer to the average than to the lowest-income group.

Implications for Non-Participants. Less globalized countries do not attain healthy growth for a variety of reasons often related to domestic turmoil. In cases such as North Korea and Burma, the rulers of these countries feel threatened by globalization principles and attribute their isolationism to their historic culture—despite the prosperous counter-examples established by their predecessors. This reclusive behavior lies in contrast to behaviors of other non-participating countries, such as Africa's post-colonial avarice or the Middle East's pre-occupation with the past.

Figure 1-F

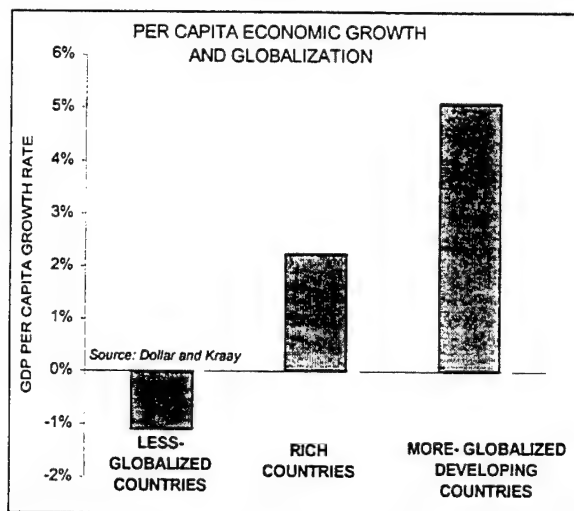
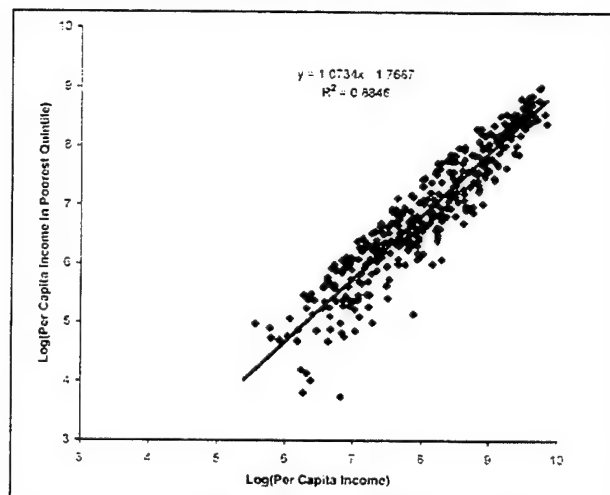


Figure 1-G

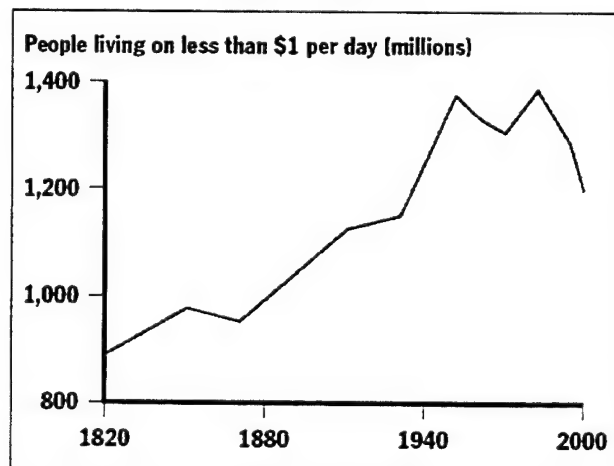
THE POOR'S PROPORTIONATE RISE OF INCOME



Source: Dollar and Kraay

Figure 1-H

WORLD POVERTY

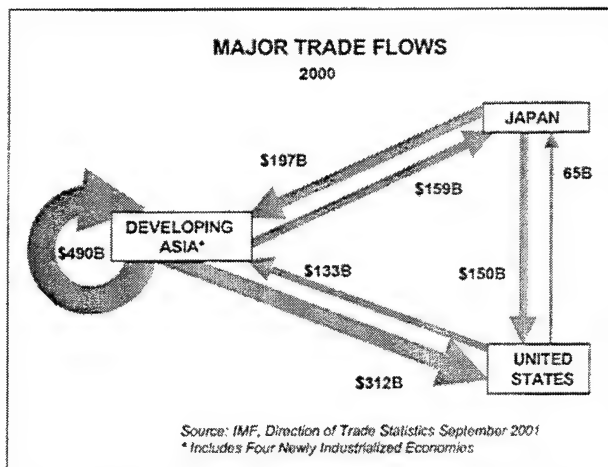


Source: World Bank

Multipolar Trade System

The United States, Japan, and the rest of the Asia-Pacific region are mutually dependent on open trade. All inject significant amounts of goods and services into the global trading system. The United States produced 13% of the world's exports in 2000, while Japan produced 8%, and Developing Asia produced 20%. Asia-Pacific trade is multipolar, with neither the United States nor Japan being the single, dominant trade partner of Developing Asia.⁶ (See Figure 1-I.)

Figure 1-I

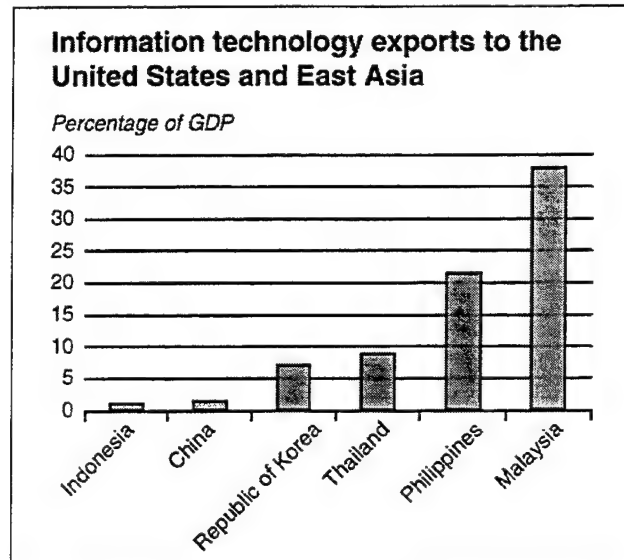


In terms of the volume of their trade with the world, both Japan and the NIEs rival the United States as global trading powers. In 2000, Japan exported \$514B to the world and the NIEs an even larger \$532B. In contrast, total U.S. merchandise exports were a sizable \$859B.

In the early 1990s, the region's exports drove its economic dynamism. During the ten-year period from 1987 to 1996, the value of exports from Developing Asia grew 16% annually, in contrast to a world average of 11%. But in 1996, Developing Asia's exports grew only 5%—an omen of the Asian financial crisis of 1997.

Information Technology Exports. The declining demand for information technology in 2000 and 2001 had strong repercussions across Asia. Malaysia was the hardest hit, having over 35% of its GDP directed toward technology exports.⁷ (See Figure 1-J.)

Figure 1-J



Source: World Bank

Key Organizations.

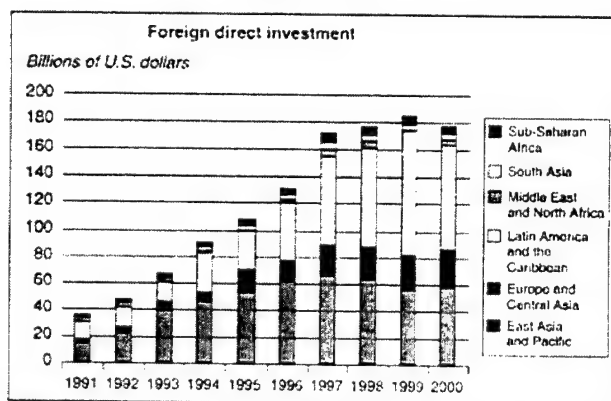
- The World Trade Organization (WTO).** Through tariff reduction, WTO closely connects the global trading system and adds business opportunities in a free, fair, and rule-based international competitive environment. Membership entails the restructuring of protected sectors, such as food and consumer goods, while significant cost savings accrue to consumers through competition. WTO's dispute settlement mechanism provides a forum for dialog and for resolving disputes. In November 2001, China and Taiwan became members.
- Asia-Pacific Economic Cooperation (APEC).** APEC is an organization of 21 economies on both sides of the Pacific whose key goal is sustaining growth through economic openness, especially through free and open trade and investment by the year 2020 for developing countries and by 2010 for industrialized countries. APEC maintains high visibility through annual Ministers Meetings and concomitant APEC Leaders Meetings.
- Emergent Organizations.** Both the Association of Southeast Asian Nations (ASEAN) and the South Asian Association for Regional Cooperation (SAARC) are planning to reduce tariffs through Free Trading Agreements (FTAs).

Foreign Capital Flows in Asia

Private foreign capital flows into the region primarily in two ways: through the traditional route of direct investment—the establishment, acquisition or expansion of a business enterprise by a foreign concern—and through the more recent conduit of portfolio investment—i.e., foreign purchases of Asia Pacific stocks and bonds. In comparison to short-term portfolio investment, direct investment represents a long-term commitment to an economy while providing direct control to the investing company.

Foreign Direct Investment (FDI). Developing Asia is the major destination of world FDI into developing countries. It received \$61B in 2000, or 34% of all such flows. The Chinese economy received the largest part in 2000, \$42B, or 23% of all FDI flows into the developing world. (See Figure 1-K.)

Figure 1-K



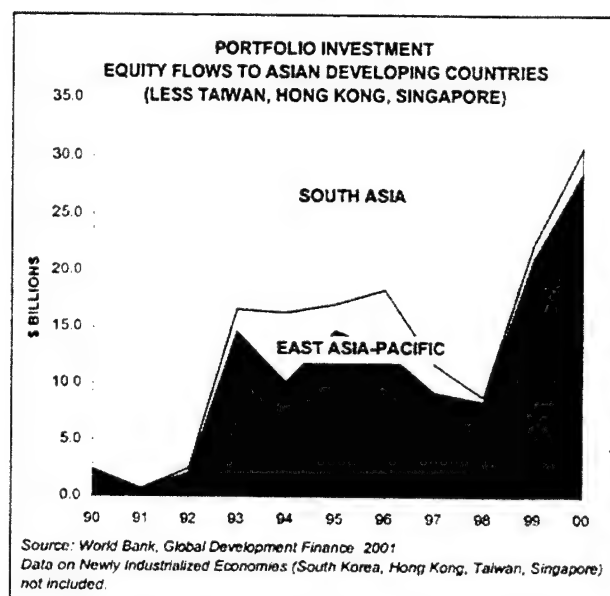
Source: World Bank

Throughout the Asian economic crisis, the region continued to see an inflow of direct investment. U.S. companies in particular have an interest in a prosperous Asia, since U.S. direct investments typically have been used to multiply their access to Asian import markets.

Revised estimates indicate that Japan's direct investment position in Developing Asia (including the 4 NIEs) is \$49B, while U.S. holdings are a significantly higher \$109B.⁸ Historically, Japan has not been a major recipient of FDI, having received a cumulative total of only \$50B by 2000. In contrast, Japanese FDI in the United States was approximately \$132B.⁹

Portfolio Investment. In 1993 portfolio investment began to expand dramatically in the region, as investors sought to profit from opportunities in the region. Asian governments opened their markets to foreign funds while trying to control the flow through immature domestic banks and fledgling stock markets. The flow to Developing Asia dropped in 1997 with the Asian economic crisis, but has since redoubled, from a previous peak of \$17B in 1993 to an aggressive \$31B in 2000. (Taiwan, Hong Kong, and Singapore are not included in these figures.) (See Figure 1-L.)

Figure 1-L



Source: World Bank, Global Development Finance 2001
Data on Newly Industrialized Economies (South Korea, Hong Kong, Taiwan, Singapore) not included.

Foreign Aid and Other Official Flows.

Foreign aid continues to be important to regional economic development. Many official projects are undertaken where private flows are not immediately profitable and where social benefits are key. Official flows include Official Development Assistance (ODA) that target economic development; export credits and investment insurance that address the risk borne by merchants and investors; project finance loans that increase commercial presence; and military assistance and training that reinforce the donor's strategic interests.

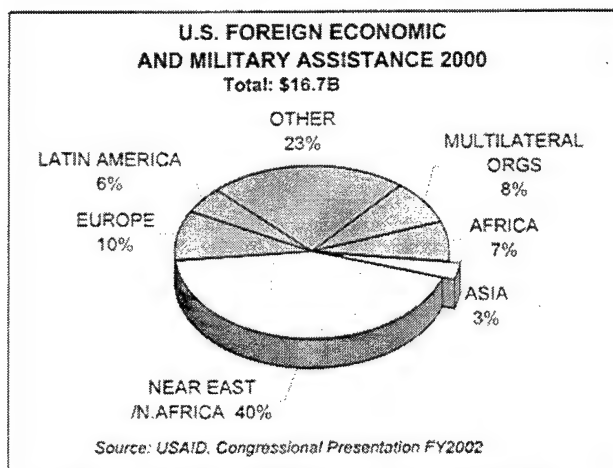
- The world's top four ODA receivers in 2000 were in the Asia-Pacific region: China (\$1.7B), Indonesia (\$1.7B), Vietnam (\$1.7B), and India (\$1.5B)—with Bangladesh (\$1.2B) ranking sixth.¹⁰

- Debt relief is receiving increased visibility as a means of restoring financial health to developing countries, although only 4.2% of the world's ODA is devoted to this purpose.
- The United Nations recommends that ODA donors devote 0.7% of gross product to ODA.¹¹ The average share among donors, however, is about 0.4%. In 2000, about 0.1% of U.S. GDP was for ODA, while the share for Japan was 0.28%.

U.S. Foreign Aid. America's contribution to the volume of foreign aid flowing into Asia is minor at best, and budget cuts are likely to reduce donations further.

- Although the United States is the second largest world ODA donor—at \$8.6B in 2001 when military grants are not included—only a small portion of these funds are directed at Asia (about \$0.5B).¹² (See Figure 1-M.)
- American military assistance to the region is modest, totaling only \$6.4M in 2000 for International Military Education and Training (IMET) and \$1M for a Foreign Military Finance (FMF) grant to the Philippines.

Figure 1-M



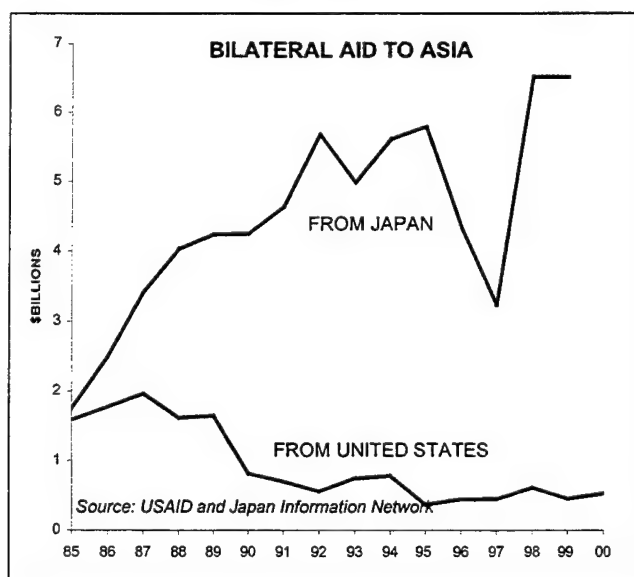
The activities of the U.S. Export-Import Bank and the Overseas Private Investment Corporation in Asia are somewhat more substantial for Asia, but are in the form of loans, guarantees, and insurance for American companies. These activities cover the risks taken by American companies when seeking to sell U.S. goods to customers who might default on their payment.

- During the Asian economic crisis, the U.S. government helped recovery by financing over \$5.0B of potential exports in 1998—although some projects in Indonesia and Thailand were canceled, as the risks became untenable.¹³

Japanese Foreign Aid. Japan's ODA is a key element of its sharing of the burden of maintaining Asian security. In particular, Japanese assistance helps to construct significant large-scale infrastructure projects in Asia and promote industrial projects.

- Of Japan's \$10.5B of bilateral aid in 1999, 62% was directed towards Asian countries. This heavy ODA component gives Tokyo a high profile in the region. Some 18 Asia-Pacific countries—among them China, India, and Indonesia—rate Japan as their largest single aid donor.¹⁴
- Due to Japan's faltering economy, assistance has varied greatly over recent years. Japan's total ODA grew 44% in 1999, declined 15% in 2000, saw little change in 2001, and is expected to decline 10% in 2002.
- Japan's flow of assistance to Asia is similarly unsteady. This flow is nevertheless significant—far exceeding U.S. aid. (See Figure 1-N.)

Figure 1-N



Key Factors for Asia's Future

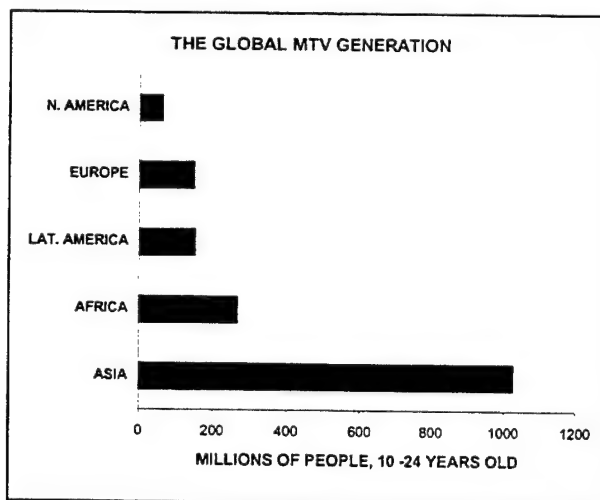
Energy, Infrastructure, and Environment.

As Asia's economies grow, so do their requirements for better infrastructure that creates an international demand for energy, transportation, communications, and environmental projects. Asia's increasing environmental problems are seen as constraints to growth, needing American expertise and equipment. This needed modernization of Asia's infrastructure presents enormous commercial opportunities for American business.

Urbanization. Urban issues have taken on increasing importance as populations move to the cities, placing stress on physical and social infrastructures. At present, 33% of Developing Asia's population reside in urban areas.

Asia's Demographic Potential. The magnitude and youth of Asia's population have led many American businessmen to conclude that huge untapped resources for trade and investment exist in Asia. The Asia-Pacific region's 3.4B people comprise 56% of the world's population. About 1B of Asia's people are between 10 and 24 years old. This "MTV Generation" has been characterized as urban, educated and consumption-oriented, with production consequently being redirected to Asia's younger generation. (See Figure 1-O.)

Figure 1-O



Source: World Resources Institute

Endnotes

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- 10 OECD, *Development Co-operation 2000*, (www.oecd.org/dac/xls/TAB25E.XLS).
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- 13 U.S. Export-Import Bank, *1998 Annual Report*, (www.exim.gov/newslett/98-anrpt/); Overseas Private Investment Corporation, *1998 Annual Report* (www.opic.gov/subdocs/public/).
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CHAPTER 2

THE U.S. ECONOMIC STAKE IN ASIA

America benefits not only from order and stability in the Asia-Pacific region, but also from our deepening economic interdependence, which has grown to become a vital American security interest. Managing this interdependence, with its attendant benefits and problems, will require enhanced economic cooperation and increased attention to diplomatic and military security relations. As a result of Asia's demographic potential, U.S. producers will increasingly turn to Asia's markets and will capitalize on U.S. strengths in technology, agriculture, consumer goods, and media—critical to improving U.S. trade balances—but also on services such as telecommunications, banking, environmental cleanup, and tourism. Beyond trade, investors will find that Asia's untapped markets can be fertile soil for profits.

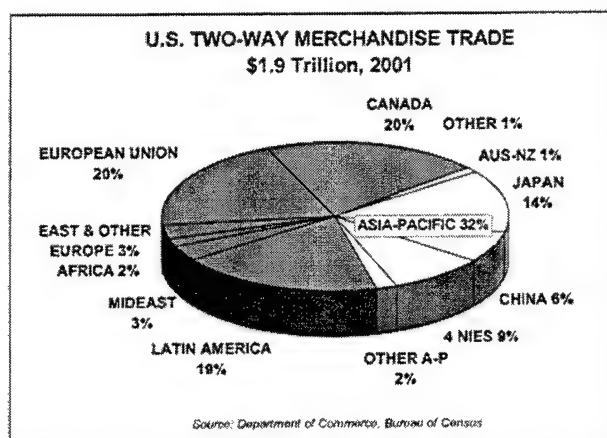
Trade and the U.S. Economy

International trade has become an increasingly important component of the American economy, as reflected in the rising share of exports and imports in the U.S. economy.¹ The ratio of imports to U.S. GDP rose from 8% in 1975 to 15% in 2000, while the export ratio rose from 8% to 11% over the same period. The small size of this trade ratio compared to those of other countries reflects the sheer size of the U.S. economy. It also explains the low priority that American institutions—such as its schools and language programs—often give to improving their international foundations. Don Evans, U.S. Secretary of Commerce, observes:

*"We're now in a new century with intense competition. Falling market share where commercial opportunities are greatest—and the unmet export potential of our small firms—compel us to take a new look at the needs of our customers, as well as at the best practices of our competitors. Many of these competitors, frankly, may be doing a better job when it comes to getting their small and medium sized companies into the markets with greatest potential."*²

Although most public attention focuses on America's persistent trade deficits with the region, trans-Pacific trade ties remain, on balance, mutually beneficial. The Asia-Pacific region accounted for an estimated \$604B—or 32%—of total U.S. merchandise exports and imports in 2001.³ (See Figure 2-A.) Developing Asia and Japan are simultaneously key sources of U.S. imports and major markets for U.S. exports.

Figure 2-A



American companies and their workers both benefit from ties to the global economy. According to Commerce Department calculations, \$1B of exports correlate to between 14.325K to 19K jobs,⁴ indicating that more than three million jobs are generated by U.S. exports to Asia. Wages in export industries are about 16% higher than those firms concentrating on domestic sales.⁵

These linkages dictate a major stake in preserving an open trading system on both sides of the Pacific. With interdependencies of trade and investment, security frictions will become less volatile and international frictions will carry a strong economic dimension. Companies pursuing profits will promote peaceful methods within their own countries, and will challenge their governments to avoid heavy-handed shows of force that threaten trade. As such, U.S. exports and imports are part of a broader security strategy that promotes the peaceful exchange of goods for the profit of all participants.

U.S. Exports. The Asia-Pacific region purchased nearly one-third—some \$194B—of U.S. merchandise exports during 2001 (see Figure 2-B).⁶ Japan is America's second-largest export market (\$65B), after Canada (\$179B). Developing Asia bought \$135B in U.S. exports, a sizeable 20% increase over 1999. Major American merchandise exports include agricultural products, power industry equipment, computers and electronics, and aircraft and parts. Trade in services—which includes such industries as finance, engineering, and transportation—is not reflected in the merchandise trade data, and represents another opportunity for American firms. Exports of U.S. services to the Asia Pacific totaled some \$65B in 2000 or 22% of total services exports.⁷

U.S. Imports. American consumers bought \$455B worth of goods from the Asia-Pacific market last year, a full 37% of total U.S. merchandise imports in 2000. (See Figure 2-C.) Although Japan is America's second-largest individual source of imports—with sales totaling \$146B in 2000—Developing Asia as a whole sold a far larger volume, \$300B. While a significant share of these goods represent low-end, labor-intensive production (such as toys and textiles), imports from Developing Asia now include electronics and machinery. The diversity of low-end and high-tech products sold by the region reflects its progress up the development ladder.

The U.S. Trade Deficit. The region alone accounted for 55% of the U.S. merchandise trade deficit in 2000. (See Figure 2-D.) Bilateral imbalances with Japan and China represent the lion's share of this total. The size of trade deficits is influenced more by macroeconomic policy than disputes over trade barriers. Macroeconomic policy seeks a balance among the inflow and outflow of savings and investment, taxes and government spending, and foreign transactions of goods, services, and finance.⁸ These balances reflect not only government policies and market conditions but also domestic politics, management practices, and cultural dispositions toward savings and consumption.

Figure 2-B

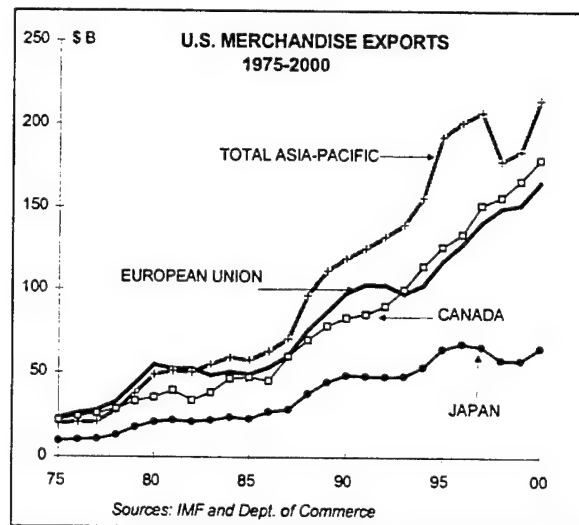


Figure 2-C

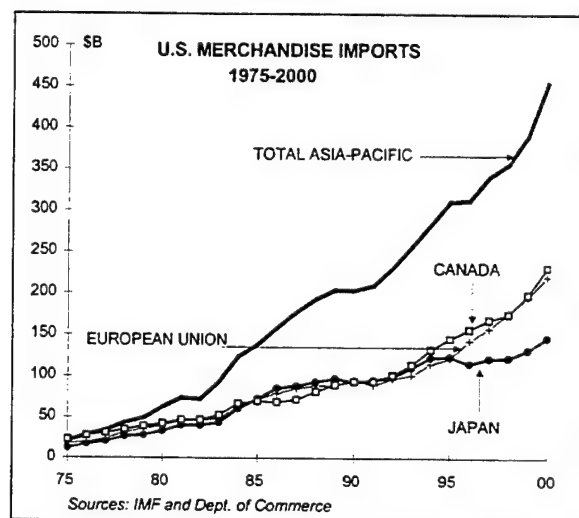


Figure 2-D

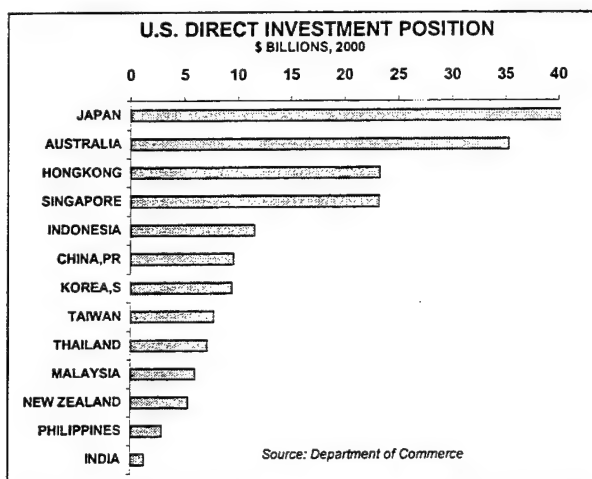


U.S. Direct Investment in Asia

Typically U.S. companies use their direct investments in Asia to augment the market for U.S. export sales. U.S. holdings in the Asia-Pacific region increased substantially from \$46B in 1987 to \$200B in 2000.⁹ These U.S. direct investment holdings were primarily in the industrialized Asian economies of Japan, Australia, and the Four NIEs. It is interesting to note, however, that U.S. energy holdings in Indonesia yielded a higher overall position for that country than with China. (See Figure 2-E.)

American companies have yet to realize the full potential of investing in Asia than they are achieving in Europe. While 33% of U.S. merchandise trade is with Asia, only 16% of total U.S. overseas holdings are in the Asia-Pacific region.

Figure 2-E



Prospects

Although trade and investment obstacles are not the full cause of the U.S. trade deficit, American business has yet to reach its full potential in the region. The attainment of mutual prosperity is made inefficient not only by official tariffs, but also by other barriers in the form of non-transparent or incomplete legal and regulatory frameworks, insufficient protection of intellectual property rights, bungled industry standards, and official corruption.

The *perception* that barriers to trade and investment in Asia have victimized the United States creates political pressures that should not be underestimated. America's past economic boom placated the loudest critics of current U.S. policy, and any prolonged downturn could bring a resurgence in voices claiming that the Asia Pacific region is "free-riding" on American security guarantees while exploiting the relative openness of American markets.

Endnotes

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- 2 Donald Evans, *Testimony Before the Senate Banking Committee*, October 2, 2001. (www2.osec.doc.gov/)
- 3 Department of Commerce, Bureau of the Census, *FT-900 Supplement*, (www.census.gov/foreign-trade/) February 2001. Census import figures do not include freight and insurance.
- 4 U.S. Trade Promotion Coordinating Committee, *National Export Strategy*, October 1995 and October 1996. Job ratio estimates are of limited use when applied to an economy in equilibrium.
- 5 U.S. Trade Promotion Coordinating Committee, *National Export Strategy 2000*, October 2000 (www.tda.doc.gov/).
- 6 Department of Commerce, Bureau of the Census, (www.census.gov/foreign-trade/) February 2000.
- 7 Department of Commerce, *Survey of Current Business*, April 2001 and "International Accounts Articles" (www.bea.doc.gov/bea/ai1.htm/). ("Other Asia" also includes a minor amount to Africa.)
- 8 *Economic Report of the President together with the Annual Report of the Council of Economic Advisors*, February 2001 (w3.access.gpo.gov/usbudget/fy2002/)
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SECTION II

ECONOMICS AND SECURITY ISSUES

Poverty doesn't cause terrorism. Being poor doesn't make you a murderer. Most of the plotters of September 11th were raised in comfort. Yet persistent poverty and oppression can lead to hopelessness and despair. And when governments fail to meet the most basic needs of their people, these failed states can become havens for terror.

President George W. Bush
March 14, 2002

The Military Component of National Security Strategy (NSS). As the national leadership generates national objectives and an NSS to pursue them, the leadership also will devise—or modify—the military instrument of national power as a component of NSS.

This strategy includes objectives for the development of broad military capabilities, their worldwide posture, and their functional and geographic orientation.

In the event of armed conflict, this strategy will include military objectives for the establishment of military conditions essential to support national security objectives and terminate the conflict on terms favorable to U.S. interests.

These objectives need to be coordinated with associated diplomatic, economic, and informational objectives.

Unified Action Armed Forces (UNAAF)
JP 0-2, 10 July 2001

CHAPTER 3 ENERGY AND SECURITY

Political instability in the Middle East raises questions of vital national security interest as to the availability and preference for oil in long-term energy policy-making.¹ Neither the Asia-Pacific region nor the United States possess oil in sufficient quantity to meet growing long-term demand. (See Figure 3-A.) This shortage of oil amplifies the already tenuous reliance on Middle Eastern oil sources. The strategic situation implies the need for careful cultivation of Middle East relationships over the short run and for the nurturing of alternative energy sources over the long-run. This section examines the Asia-Pacific region's energy mix today, the strategic role of oil, and promotion of other sources of energy.

The Energy Mix Today

Energy patterns in the Asia-Pacific region are driven by the interplay of traditional economic sectors—which generally rely on coal—and modern sectors that rely on oil. Because of their large populations that exist in traditional economic sectors, China and India are heavily reliant on coal derived from domestic sources. The rest of the Asia-Pacific region relies heavily on oil.² (See Figure 3-B.) The successful growth of Asia's modern economic sectors also saw:

- Growing use of hydroelectric, nuclear and natural gas forms of energy.
- The reliance of industrialized sectors on global energy markets and transportation systems.
- Government support for energy projects using foreign and domestic investors coupled with private operating companies.
- For some, economic stimulation policies promoting diverse export sectors, rather than dependence on oil and gas exports. Indonesia is a successful example of export diversification, while Brunei and Burma are counterexamples.

Figure 3-A

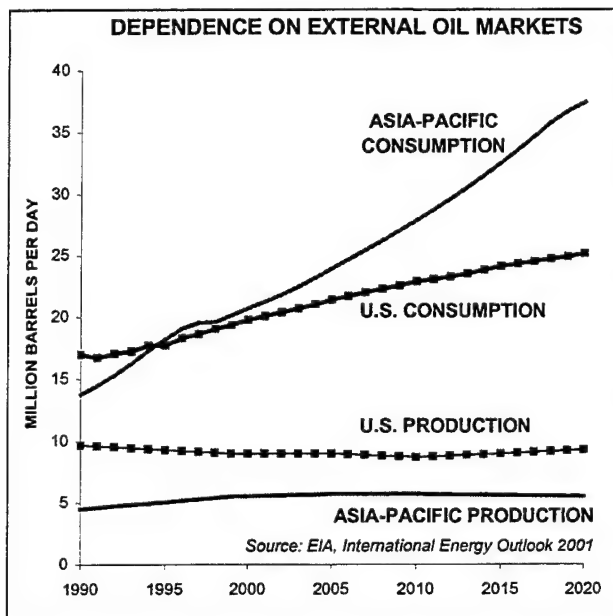
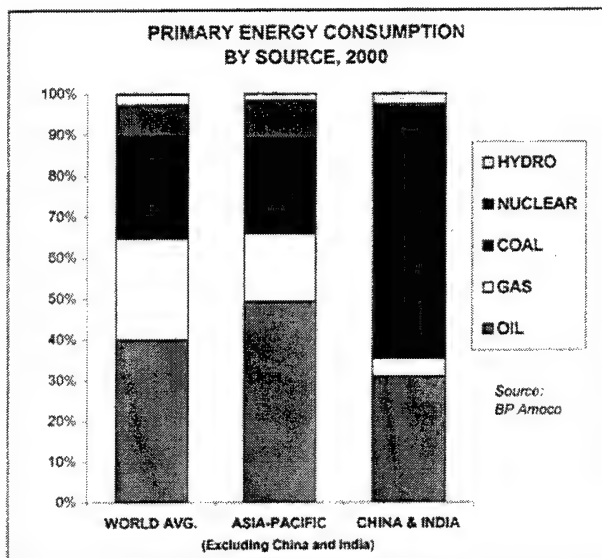


Figure 3-B



Coal. Coal supplies the majority of energy needs in China (64%) and India (56%), but only 23% of the rest of the region's need. Coal consumption in Asia is expected to double in the next 20 years, but will not keep pace with total energy needs. The region is well endowed with coal, especially in China, Australia, India, and Indonesia. At present production rates, the world's coal reserves will last 220 years, and those in the Asia-Pacific region will last 146 years.

Hydroelectric Power. Although hydroelectric power provides only 2% of the Asia-Pacific region's energy needs, it is an essential part of rural development plans. Perhaps in disproportion to energy needs, these plans are related to cross-border tensions—and cooperation—over river basins like the Mekong and Ganges. China and India will likely double their hydroelectric consumption in the next 20 years. China's controversial Three Gorges Dam project is scheduled to be fully operational by 2009 and addresses both flooding and energy concerns.

Nuclear Energy.³ When excluding coal-intensive India and China, nuclear power supplies 9% of the region's energy needs. The Asia-Pacific region is actively adding nuclear capacity while the rest of the world is retiring plants. Key nuclear energy consumers are Japan (309 B Kilowatt-hours) and South Korea (98 B Kilowatt-hours). China's nuclear capacity may increase nine-fold in the next 20 years. Nuclear plants are found in India and Taiwan. North Korea's plant is to go online in 2008. Given healthier economies, programs will proceed in Thailand, Indonesia, the Philippines, and Vietnam.

Natural Gas.⁴ At present production rates, the world's proved natural gas reserves will last 62 years. Although sizeable, Asia's natural gas reserves are smaller than reserves in the Middle East, the former Soviet Union, or Africa. Natural gas satisfied 11% of the Asia-Pacific region's energy needs in 2000. By the year 2020, natural gas consumption in the region is expected to reach 27 trillion cubic feet, which is 2.8 times the current level.

The Strategic Role of Oil

Prevalence of Oil. Oil is the key energy source powering the modern economic sectors of the Asia-Pacific region. Japan is the world's second largest oil consumer, China ranks third, while South Korea is sixth. When excluding China and India, oil accounted for 49% of the region's energy consumption in 2000.

Rising Demand for Oil. In the next 20 years, China's oil consumption is expected to grow 93%, while the rest of Developing Asia will increase 53%.

Declining Regional Oil Supplies. Assuming constant production rates, the world's proved oil reserves⁵ would last 41 years, although the Asia-Pacific region's smaller oil reserves would last until only 2015. Projections by the Energy Information Administration assume continued discovery of world oil resources, which may be an optimistic assumption, given that regional supplies are limited and new findings are scarce.

Import Dependency.

- The Asia-Pacific region produced 5.5 million barrels pre day (MBD) of the 20.7 MBD that it consumed in 2000. (Almost all of the region's production is consumed internally.)
- The share of imports in Asia-Pacific oil consumption has risen from 67% in 1990 to 73% in 2000. The dependency on imports is projected to rise to 80% by 2010 and 85% by 2020. (See Figure 10-B.)

The Middle East. Asia's dependence on Middle East sources of oil will grow. The Middle East supplies almost all of the Asia-Pacific region's imports, with Algeria, Nigeria, and Venezuela providing a very small portion.

- The share of Persian Gulf oil in total oil consumption is high for the Philippines (85%), Japan (75%), South Korea (74%), Taiwan (61%), Singapore (55%), and Thailand (48%).⁶ (These facts include oil that is refined by Singapore, but primarily is obtained from the Middle East.)

- Countries that are less dependent on Persian Gulf oil include Australia (23%) and China (8%).
- The Asia-Pacific region's dependence on Persian Gulf oil sharply contrasts with the United States, where Venezuela, Canada, Mexico, and the North Sea will remain key external sources for the U.S. energy market. The United States produced 9 MBD of oil in 2000, while consuming 20 MBD. The overall U.S. dependency on imports to meet oil demand is expected to rise from 40% in 1995 to 50% in 2020.⁷ Currently, oil from the Persian Gulf comprises 13% of U.S. oil consumption.⁸

Shipping Lanes. The dependency on oil imports from the Middle East emphasizes the strategic importance of shipping lanes. Protection of vital Sea-Lines of Communication (SLOCs)—such as the Strait of Malacca—will likely become an even greater priority in the region. An indication of this trend is the demand for naval and air capabilities in the Asia-Pacific region, which is driven partly by a desire to protect oil shipments.

Oil and China. China's oil demands are growing and outstripping its domestic oil production.⁹ China will be increasingly reliant on external sources for oil, especially the Middle East. Some Chinese policy-makers may seek a mercantilist approach to energy sources by securing access to supplies and transportation routes. Consequently, some energy analysts speculate that:

- The securing of oil sources and routes may be a motivating factor for China to expand and modernize its navy.
- China's growing political involvement in Burma (Myanmar) is linked, according to some observers, by a desire to establish naval facilities on the Indian Ocean.¹⁰
- China's energy connections to Central Asia and Russia seek to ensure its future access to global oil supplies and imply an economic interest in stabilizing ethnic problems along China's borders.

- Corruption and rent-seeking will be a problem in energy sectors. China's coal bureau is under investigation, as part of the government's acknowledged mishandling of one-fifth of its budget.¹¹

Oil and the South China Sea. Oil politics in the South China Sea threaten not only global shipping trade but also regional security. Further, the economic importance of additional reserves in the middle of the South China Sea—in the Spratly Islands—is easily overstated.

- The region around the South China Sea has proved oil reserves estimated at about 7.5 billion barrels, which are located within Exclusive Economic Zones of several littoral countries.
- The most optimistic Western estimates place total oil resources (not proved reserves) within the South China Sea at 2 billion barrels. If fully recoverable, the Spratly Islands hypothetically could yield a peak oil production level of 180,000—370,000 barrels per day—the same order of magnitude as current production levels in Brunei or Vietnam. However, the rule-of-thumb for frontier areas is that only 10% of potential resources can be economically recovered, which suggests that total production will be significantly less.¹²

Oil's Strategic Implications. The security of global oil markets is a vital foundation for socio-economic growth within Asian countries.

- The region will increasingly depend on political stability in the Middle East.
- Oil dependency presents the challenge of potential resource conflict as well as the opportunity for international cooperation.
- Some argue that growing energy linkages between Asia and the Middle East drive arms sales, particularly between China and Iran.
- Non-oil producing countries of the region will continue to experience bilateral deficits in their balance of payments with oil producing countries. For example, the

Philippines exports its laborers to Arabian Gulf states to help pay for oil imports.

- The demand for energy has spin-off effects on environmental conditions, especially regarding the impact of fossil fuels. Energy is a two-edged sword, both sides of which have global implications. For example, oil prices are part of a global market mechanism, and the environmental damage to the atmosphere caused by this oil usage also has global consequences. (See Chapter 6.)
- The intensity of energy usage—in terms of per capita energy—in the Asia-Pacific reflects its current practices, which are unique. However, the long-term energy demand of the region will multiply with the proliferation of modern industries and consumer behavior patterns.
- Given the region's surging demand for energy and the political fragility of oil suppliers, the handwriting is on the wall: The development of alternative energy sources is vital to regional and global security.

Endnotes

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CHAPTER 4 SHIPPING AND COMMERCE

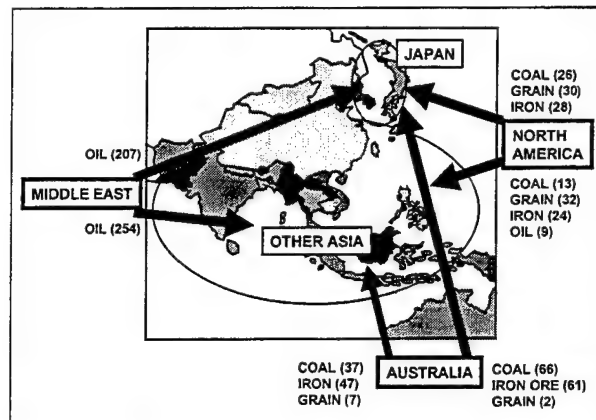
The free passage of shipping along Asia-Pacific sea-lanes is a fundamental factor contributing to Asia's recent economic dynamism. Both sides of the Pacific depend on a secure flow of commerce that adheres to international norms. The national security policies of countries participating in the global economy depend on an open, impartial trading system that predictably provides access to commodities from far-flung locations. The mercantilist approach of former centuries does not apply when global commerce is made secure. Consequently, the security of Asia's shipping lanes and supporting infrastructure directly affects worldwide economic security. As such, the benign neglect of both maritime piracy and territorial posturing in the South China Sea makes commerce vulnerable and adds to the cost of security for the region.

Commodity Flows

The overall pattern of shipping consists of large tonnages of low-value resources shipped through Southeast Asia to industrial economies (Japan and the Four Newly Industrialized Economies) in North Asia, who then add value via manufacturing processes. These industrial economies then ship out relatively smaller tonnages of high-value goods, much of which passes through Southeast Asian or trans-Pacific routes.

Cargo flowing into Asia typically includes containerized goods, dry bulk goods (grain, coal, and iron ore from North America and Australia), as well as oil from the Middle East. (See Figure 4-A.)¹ Generally, crude oil is the biggest single cargo in terms of volume through Southeast Asia, while finished consumer goods are the dominating cargo in terms of value.

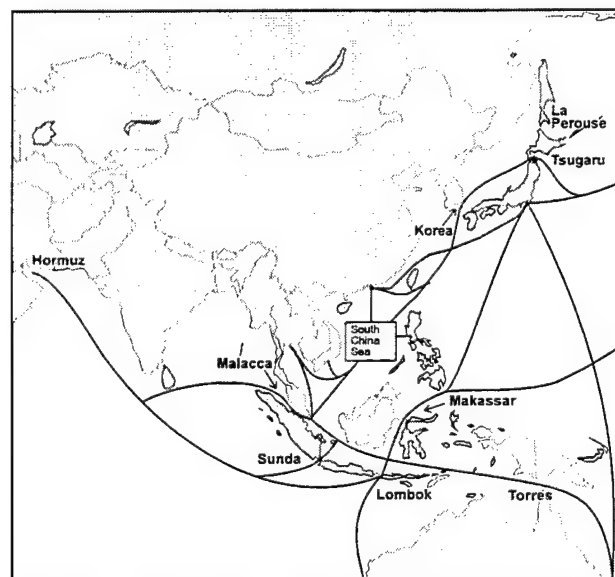
Figure 4-A
Major Commodity Flows to Asia (1998)



Shipping Routes

The geography of Asia dictates that most international trade moves by sea. Interior land transport infrastructure has not been highly developed, although efforts are being pursued on the Malaya Peninsula. As such, shipping is characterized as a blend of dense traffic through straits and along coasts accompanied by long-distance, open-ocean transit. Figure 4-B shows major maritime trade routes linking the trading economies of the region to the rest of the world.

Figure 4-B
Major Trade Routes and Straits



Straits and Chokepoints

The major sea lines of communication (SLOCs) are constricted at several key straits, the most important of which are located in Southeast Asia: the Malacca, Sunda, Lombok, and Makassar straits.² These SLOCs cross the waters of several countries, including Malaysia, Indonesia, and Singapore, with Singapore's port facilities serving as a major node for refueling and transshipment. Two-way trade transiting these SLOCs is important not only for the economies of Southeast Asia but also for businesses in Northeast Asia, Europe, and the United States.

- More than half of the world's annual merchant fleet tonnage passes through the Straits of Malacca, Sunda, and Lombok—most also transit the South China Sea.
- More than 15% of the value of world trade passes through Southeast Asia each year.

Busy but Flawed. The busiest route follows the Strait of Malacca, whose crowded, shallow, and narrow passages are a concern for maritime and environmental safety.

- Tanker traffic through the Strait of Malacca is more than three times that of Suez Canal traffic, and well over five times that of the Panama Canal. Annually, more than 1,100 fully laden supertankers pass eastbound through the strait, many with only a meter or two of clearance between keel and bottom. About 9.5M barrels of oil transit the strait every day.
- The 1.5 miles wide Phillips Channel in the Singapore Strait is a vulnerable bottleneck.
- If the strait were closed, transit time and distance for nearly half of the world's fleet would increase marginally and raise freight rates for a period of time. All excess capacity of the world fleet would be absorbed, with the effect strongest on oil and dry bulk shipments such as coal.

Underinvested Alternatives. The more distant Sunda and Lombok-Makassar routes are superior in terms of depth and width, but lack good navigational aids and infrastructure.

International Cooperation

The free flow of shipping enhances global trade and regional economic development. This regional growth is reinforced by peaceful settlement of disputes and a preference for the rule of law. The threat or use of belligerent military force would be seen as disrupting regional peace, prosperity, and security.

Freedom of Navigation. Disruptions to freedom of navigation would lead to medium-term cost increases due to detours, insurance, and added capacity, while long-term costs would accrue due to damaged trade and security relationships. All countries in the region have obvious economic interests in maintaining freedom of navigation, especially through the Strait of Malacca and the South China Sea. Traffic in the South China Sea is problematic, as sea lanes proceed near coastal areas and near the extensive shallows of the Spratly Islands. The Lombok-Makassar route is important to Australian exporters, who send bulk goods, coal, iron ore, and grain to northern markets via those straits.

International Norms. Territorial seas and their baselines are not clearly published, leading to cross-border disputes and misunderstandings over the application of international law.

- Many countries have not published practical maps showing the baselines from which to draw their territorial seas.
- Countries find it increasingly difficult to manage the resources in their Exclusive Economic Zones (EEZs) as unauthorized foreign fishing fleets test their waters.
- Further cooperation addresses issues of international jurisdiction as well as practical issues of safety, international standards, and equipment interoperability.

Political Posturing. In maritime matters, China's government misapprehends many international norms. Its vague demarcation of territorial seas, its occupation of another country's EEZ, and its misunderstanding of international air safety norms threaten the

livelihood of Chinese air and naval ports along the southern coast of China, including Hainan, Fujian, and Hong Kong.

Tension in the South China Sea

The existence of unresolved maritime and territorial claims in the South China Sea remains a source of potential instability to the region.³ The Philippines, Vietnam, Malaysia, China, and Taiwan have made territorial claims to all or part of the Spratly Islands. Brunei has made maritime claims extending into the disputed area. Both China and Taiwan have made very loose claims covering most of the South China Sea, while official statements refer to island groups in name only. A seventh country, Indonesia, also possesses significant oil and gas fields in the adjacent Natuna Island area.⁴

Agreements. In 1992, ASEAN member countries issued the "ASEAN Declaration on the South China Sea," which called on all parties to "resolve all sovereignty and jurisdictional issues pertaining to the South China Sea by peaceful means." The Declaration also urged all parties to exercise restraint and to cooperate on maritime safety, pollution, search and rescue, and combating piracy and drug trafficking. The United States and China subsequently made statements of support for the ASEAN Declaration.

- In 1995 China occupied Mischief Reef, well within the Philippines' claimed 200 nautical mile EEZ, and officially built "fishing" facilities there.⁵ In response, the Philippines removed nearby Chinese claim markers.

U.S. Policy. The United States has issued statements advocating freedom of navigation, peaceful measures to resolve differences, and the use of international law, especially the 1992 United Nations Convention on the Law of the Sea,⁶ which, with the exception of Taiwan, the six claimants have signed. The United States has taken no position on the legal merits of competing sovereignty claims and supports peaceful resolution of claims and peaceful development of resources. In

addition to dependence on freedom of navigation through the South China Sea, U.S. interests include an open economic region that adheres to principles of international law.

Maritime Piracy

Maritime piracy presents an ongoing threat to commercial shipping in Southeast Asia. The International Chamber of Commerce (ICC) International Maritime Bureau (IMB) Piracy Center in Kuala Lumpur, Malaysia, reported a worldwide increase in piracy of 57% to 469 cases in 2000.⁷ (Piracy incidents are notoriously under-reported.) Asia was the site of 62% of these acts. One fourth of the world total occurred in Indonesia and 16% were in the adjacent Malacca Strait.

- The Asian economic crisis helped to stimulate these thefts. Meanwhile cost-conscious regional navies were less able to patrol their territorial waters.
- Pirates often use extreme brutality: In 1998, 67 people were confirmed killed in attacks on ships.
- By signing the Rome Convention of 1988, a country commits itself to prosecuting pirates, even if the acts originated in another country. Only Japan, China, and Australia have signed.
- Japan recently has been conducting bilateral anti-piracy exercises with India, Singapore, and the Philippines.

Organized Crime. Growing evidence suggests that piracy in the Asia-Pacific region is tied to international criminal organizations.

- Attacks can be planned in one nation and carried out by the nationals of a second country in the waters of a third. Goods can then rapidly be disposed of in a fourth.
- Reports indicate that a highly organized and well-financed criminal syndicate, with connections in Hong Kong, Indonesia, and China, operates a mother ship that targets small vessels with valuable and easily disposable cargoes. Once pirated, it is thought that the ships are sailed under false names to small ports from where the cargoes are sold and the pirates escape.

Merchant Fleets and Facilities

Fleets. Asian countries own 34% and manufacture 72% of the world's merchant fleet tonnage. Japan owned 13% of world merchant fleet tonnage in 1995, following Greece's 18% share. The United States and Norway followed, at 7% each, and China owned 5%. The four Newly Industrialized Economies (Hong Kong, Singapore, Taiwan, and Korea) owned 12% as a group. Most of today's ships are built in Asia, with Japan taking 35% of the orders for new ships in 1996, Korea 30%, and other Asian countries 7%. Many of the ships in Asia are "flagged out" to countries such as Panama and Liberia, but are owned by other countries, principally Japan, but also Greece, the United States, Great Britain, and Singapore.

World-class Ports. In terms of throughput tonnage, four of the world's five largest ports were located in Asia in 1998: Rotterdam (315 Million Metric Tonnes, or MMT) was followed by Singapore (241 MMT), Shanghai (164MMT), Nagoya (134 MMT), and Hong Kong (128 MMT). In 1998 the world's largest container ports were Singapore (15.1M twenty-foot equivalent units, or TEUs), and Hong Kong (14.9M TEUs).⁸

Upgrades. The region's shipping infrastructure has modernized rapidly. Ports are being expanded in Laem Chabang in Thailand; Bombay, India; Ho Chi Minh City and Cua Lo in Vietnam, Penang and Klang in Malaysia; Indonesia's Batam Island near Singapore; Subic Bay in the Philippines; and at cities along coastal China. China is by far the world's largest manufacturer of dry freight containers and its port facilities are being modernized. Shanghai's container port doubled its capacity in three years, reaching 3.1M TEUs in 1998.

Conclusion

Global economic growth is contingent on the openness of Asia-Pacific trade routes, which are vulnerable to piracy and political tensions over the Spratly Islands.

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CHAPTER 5

POPULATION AND FOOD SECURITY

Four decades of impressive economic growth, rising per capita income, and growing employment opportunities have provided millions with a better standard of living in the Asia-Pacific region. As a result of this greater prosperity, Asians eat more meat, fish and dairy products. Coupled with a growing population, this increased demand has the potential to overwhelm global commodity markets and raise the specter of food shortages. The close linkage of food scarcity issues to other major problems (environmental damage, trade tensions, and resource disputes) is especially vexing. This chapter examines the food problem in terms of its population, supply, and demand components, identifies key food policies, and points to the potential for these issues to pose security problems in the region.¹

The Problem: Sustainability

Simply put, could the world be running out of food? Market signals in recent years have shown shortages of certain grains, and world food production has leveled off despite the use of genetic yields and other agronomic technology. Despite these trends, few believe that a world food crisis is imminent. There are at least three factors, however, which should dispel complacency on the part of governments and international institutions responsible for establishing food policy:

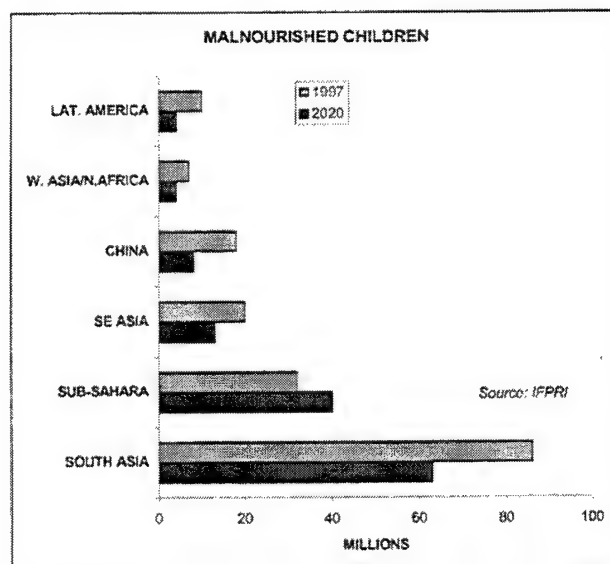
- Global population is likely to increase 50% to over 9B people within the next 50 years;
- The majority of this population currently resides in the developing world; and
- The developing world increasingly is exposed to the effects of industrialization and changing consumption patterns.

Food Security. Food security is generally defined as the ability for a country to supply an assured access to food—in an adequate quantity and quality to meet nutritional demands by all social groups and individuals.

Asia's food security is enhanced by its economic growth and its participation in global markets. These markets have helped match food supply to food demand. Asia's future food demand will be determined by its large, burgeoning populations, which are becoming more and more affluent. Its food supply will be determined through prudent management of the global agricultural resources (arable land, water, energy, and fertilizer) and through technical improvements. A key research question is whether Asia's food supply and demand systems can be sustained.

Malnutrition. Chronic underfeeding is a key indicator of food insecurity.² Malnutrition remains a problem in Asia, although the magnitude is declining as economies grow. (See Figure 5-A.) Asia's success differs from Sub-Saharan Africa, where starvation is localized and driven by poor governance. The social impact of malnutrition is obvious: at the extreme, the chronically underfed child of today could support the terrorist of tomorrow.

Figure 5-A

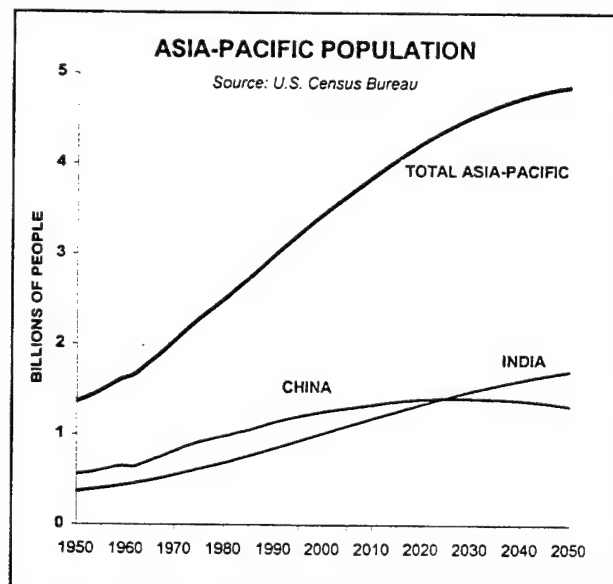


Population Changes

Of the 6B people in the world in 1999, 56%, or 3.4B, live in the Asia-Pacific region. This share gives Asia a dominating role in the demand for world food production. Population growth in the region has slowed in recent years due to modernization, social change, and, to some extent, a decline in fertility rates.³

Whereas fertility rates have slowed in the industrialized sectors of Asia, the rest of Developing Asia is still growing at an above average rate. Each country is unique: there are large differences in children per woman across the region: Japan (1.48), China (1.80), Australia (1.81), Indonesia (2.57), Bangladesh (2.86), India (3.18), Philippines (3.46), Laos (5.55) and Cambodia (5.81). As a result of fertility differences, the U.S. Census Bureau estimates that India's population will exceed China's in the next 30 years.

Figure 5-B



Asia's population momentum and rising health standards will raise the total population of the region to approximately 4.27B by 2025, with a global population at 8.22B. At present, 81M people are added to the world population annually, of which the Asia-Pacific region contributes 63%, or 51M individuals per year. Of this, China contributes 13M and India an even larger 16M people per year.

Food Demand Issues

Volume. Asia's growing population requires an increase in cereal grain production of 344 million metric tons (MMTs) from 1997 to 2020.⁴ Of the 557 MMT global increase, China comprises 26% and India 12%.

Mix. Asia's rising per capita income has caused key shifts in diet and food demand. Asia's economic growth promotes diets of meat, fish, and dairy products and less direct consumption of grains. However, these diets have a multiplier effect on the indirect consumption of grains that support the beef and dairy industries.

Conspicuous consumption. As incomes increase, people usually eat more food and generally eat more meat, which requires enormous amounts of grain to feed livestock, which unfortunately consume more calories and protein than is produced. Concerned scholars believe that these grain-intensive consumption patterns generated by industrializing economies will drive up the price of grains worldwide. This pattern makes it more difficult for the developing world to feed itself, which could lead to unrest and instability.

The China Factor. The fear most often discussed among pessimists is whether China will empty the world's grain markets as it assumes a wealthy nation status. Lester Brown, President of the Worldwatch Institute and a leading Malthusian, estimated that China would import up to 216 MMT of grain by 2030.⁵ A more moderate estimate is for China's grain imports to leap from 8 MMT in 1997 to 48 MMT 2020.

Much of China's newfound affluence is being spent in diversifying the Chinese diet: more pork, poultry, eggs, and beef to eat and more beer to drink—all of which require grain. China alone will account for 43% of additional meat demand worldwide between 1997 and 2020.

Food Supply Issues

Technology. A key finding of food security studies is that most fertile lands are already being exploited and that future increases must come by raising biological yields.⁶ In particular, the development of rice hybrids—especially the nutrient-enhanced "golden" rice—is seeing progress. However, Asia's yield productivity has slowed in recent years, leaving concern for dealing with future demand.

Water. The primary constraint to food production is water scarcity. Despite Asia's seeming abundance of water, especially relative to more arid regions like the Middle East and Africa, Asia's water supply is shrinking. Major food-producing areas such as the Punjab of India and the central and northern areas of China suffer from the depletion of aquifers and the diversion of water from irrigation systems to growing cities.⁷

Land. Another critical resource constraint is arable land.⁸ The sprawl of Asian cities into rural areas and severe soil erosion due to deforestation have forced Asian farmers to rely on gains in yield rather than area expansion for food production. While irrigation almost doubles productivity, incremental gains in fertilization and irrigation present complex problems. For instance, India averaged 3.5% increases in food grains production in the 1980s, but slumped to 1.7% growth between 1991 and 1997 despite an uninterrupted period of excellent rains. In Indonesia, more than one million hectares of farmland have been lost due to industrial and infrastructure development in the last five years. Nevertheless, the primary constraint to expanding crop areas in the near-term is that real grain prices are flat—making expansion unprofitable.

Environment. Global warming, if it continues, will reduce food production in countries closer to the equator. The Pacific Islands and Indonesia likely will be more internationally dependent on outside resources and may see more poverty and social problems if scarcities are not addressed.

Food Policies

Self-Sufficiency Policies. Countries like China are confronted with the impacts of sub-optimizing for food self-sufficiency. The consequences of distorted prices and environmental damage affect long-term food security. Although China's food policy stresses self-sufficiency in cereals (rice, wheat, maize), in the 1990s it recognized the necessity of food imports to deal with dynamic situations.

Japan, historically a self-sufficient food producer, became a net food importer 30 years ago. As paddy fields and farm villages yielded to factories and office buildings, Japan became the world's largest importer of food.⁹ Its decision to rely on the global trading system to assure a stable source of food illustrates the striking interdependence of economic and security strategies.

Global Access Policies. In the 1990s, the governments of Western Europe and the United States initiated production subsidies to help their farmers meet food deficits in Asian countries. A virtuous circle developed in which the industrialized countries (who generated Asia's new-found wealth) met Asia's food imbalances (through Western agricultural prowess). The result is a global trade and transportation network that reinforces food security for the Asia-Pacific region.

Further, China's participation in the WTO will increase its food security by giving it access to global grain markets that are stabilized by internationally accepted standards and robust dispute mechanisms.¹⁰

Governance. A key agent in addressing these long-term problems is the capacity of governments to deliver services that prudently deal with population and food issues.¹¹ Sound institutions help to shape the course of food supply and demand. A brief examination of U.S. governmental bodies illustrates the value that "market-oriented" Americans place on governmental oversight of forests; soils and other natural resources; farms; foreign trade; nutrition and food safety; regulatory and inspection programs; risk management; rural

housing, utilities and development; research, education, and outreach; national parks; indigenous affairs; land management; minerals and mining; and inspector general functions.¹²

A good food policy example is that of Thailand, which since the 1980s has steadily reduced poverty and malnutrition by addressing diet, health, and agricultural production at the community level.

Natural disasters and governance. Asia's poor forestry practices and bad watershed management have induced unnecessary soil erosion, flooding, and social disruption. Often Asia's regional disasters are attributed to natural causes, but bad management practices, poor civil engineering, and weak institutional structures are also to blame.

Military Implications

Often, the military is called upon to address these population and resource issues, whether for domestic purposes (humanitarian assistance and disaster relief, public works; enforcement of exclusive economic zones; assistance in times of national emergency) or for international engagement during peacetime or war.¹³ Therefore, it is essential that military institutions have a judicious understanding of these issues in order to professionally conduct themselves amid their populations and governments.

Conclusions

Asia's food economics connects a modern global trading system with traditionally remote agricultural practices. The linkages between population pressures and food security are fundamental and complex, each discrete concept sharing a cause-and-effect relationship with the other to form a web of problems that is transnational and system-reinforcing.

In particular, the growth of the economies and populations of China and India, coupled with loss of arable land, will increase global demand for grain, exerting upward pressure on commodity prices in the long-term. Studies by the International Food Policy Research Institute indicate a reasonable food supply in coming

years. Although experts are not completely optimistic, increases in food prices can be tempered with improved technology and practices. Poor, populous countries will be the most susceptible to price increases and the most vulnerable to social unrest.

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CHAPTER 6 ENVIRONMENT

Throughout the Asia-Pacific region, rapid economic and population growth creates serious social consequences from environmental problems of urban excess, deforestation/desertification, overfishing, global warming, air pollution, and limited safe water supplies. The Asian economic crisis has aggravated this trend.¹ Economic policies have encouraged growth in some sectors while ignoring damage to others. Further, little regard is given to sustainability of the exploited resources. The social costs in terms of health, economic efficiency, and cultural dislocation are immediate, while the long-term costs of environmental rehabilitation are humbling. Left unbridled, environmental damage can lead to economic decline.²

Implied Taxes

Although businesses at times may prefer to avoid paying environmental costs, the costs to society of this neglect are borne nevertheless—and often at a higher per capita rate, when the unintended spin-off effects on health, infrastructure, and international relations are considered.

- China has the world's most polluted cities. Such environmental problems cost China up to 10% of its GDP.
- Other countries in the region are also burdened by a similar "tax."³ (See Figure 6-A.)

Figure 6-A

Costs of Environmental Degradation

Country	Damage	Annual Cost (\$B)	% GDP
China	Lands	13.9-26.6	3.8-7.3%
	Urban pollution	6.3-9.3	1.7-2.5%
Indonesia	Jakarta's air	2.2	2.0%
Philippines	Air, water, health	0.3-0.4	0.8-1.0%
Thailand	Air, health	1.6	2.0%

Source: Asian Development Bank

Urban Excess

Environmental problems arise from the urban by-products of transport, industrial activities, and the overcrowding of human habitation. As noted previously, economic policies have encouraged mass migration of labor to urban industries. The shift from rural to urban Asia will accelerate in the coming century, aggravating urban crowding and increasing the risk of social and political conflict. Asia's urban profile increased from 27% (0.7B people) in 1980 to 38% (1.4B) in 2000 and will rise to 50% (2.3B) in 2020.⁴

Figure 6-B

Population of Asia's Megacities⁵

City	World Rank	1995 Millions	2015 Millions
Tokyo JP	1	26.96	28.89
Bombay IN	5	15.14	26.22
Shanghai CH	6	13.58	17.97
Calcutta IN	8	11.92	17.31
Seoul KO	10	11.61	12.98
Beijing CH	11	11.30	15.57
Osaka JP	12	10.61	10.61
Delhi IN	15	9.95	16.86
Tianjin CH	19	9.42	13.53
Manila RP	20	9.29	14.66
Jakarta ID	22	8.62	13.92
Dhaka BG	23	8.55	19.49

Source: UN Population Division

To date, governments have stimulated urban migration by maintaining low food costs, which reduce rural incomes and increase the flight to the cities. About a third of the people in the Third World's cities live in desperately overcrowded slums and squatter settlements, with many people unemployed, uneducated, undernourished and chronically ill. Conditions will worsen as their numbers swell and transport, communication, health and sanitation systems break down.

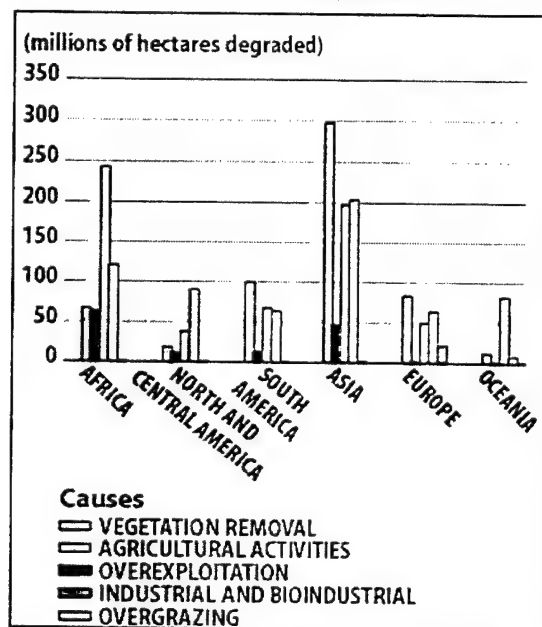
One solution to urban excesses is to divert industry and its induced labor migration away from the megacities towards surrounding areas.⁶ This requires significant infrastructure investment, however, and establishes competing centers of political power.

Deforestation/Desertification

Asian food security is threatened by deforestation and desertification. More than a third of the arable land in Asia is at risk. Nearly 75% of Southeast Asia's original forest cover has been destroyed at an annual loss rate that is the size of Switzerland.⁷

The loss of forests and agricultural land is due to both the exploitation for profit and the ignorance of good practices. Isolated, rogue regimes such as Burma exploit timber, oil, and mineral resources to support their governments. Poor farmers across Asia use improper irrigation and fertilization practices, resulting in increased salinity and toxic soils.

Figure 6-C
Asia's Soil Degradation⁸



Source: World Resources Institute

Regardless of motive and method, the loss of workable land hurts not only the harvester, but also has broad consequences for his neighbors in terms of erosion, downstream flooding, and pollution. Indonesia's provinces refuse to properly manage the annual smog threatening the health and productivity of its own people as well as in neighboring Singapore and Malaysia.⁹

These failings point to an obvious need to invest in improved oversight, management, monitoring, methods, and conservation.

Landmines and Unexploded Ordnance

After years of conflict, large quantities of mines and other unexploded ordnance (UXO) litter the landscape, killing and maiming thousands of innocent victims annually.¹⁰ The problem is most acute in Cambodia, Vietnam, and Laos. In Cambodia, one out of every 245 individuals is an amputee. Landmines and/or UXO maim or kill 100 people per month in Cambodia. Death or injury remove many victims from the work force during their productive years, further debilitating economically disadvantaged families. Landmines and UXO create vast numbers of internally displaced people, remove valuable real estate from productive use, serve as physical barriers to the movement of people, goods and services, and dramatically increase the mortality rate of both people and livestock.

Cambodia's 4 to 6 million landmines are scatter over 1,800 square kilometers, or roughly 1% of the country. Estimates are that 200,000 tons of UXO affect up to 50% of the Laotian landmass. Major projects have been delayed, and, before activities proceed, accountants must set aside up to 10% of project costs for mine clearance. Large-scale development is difficult or impossible because of landmines. Agricultural production could increase by 135% in Cambodia without the impediments of mines and UXO.

The United States has provided millions of dollars in monetary aid and has carried out or proposed a number of projects to help these countries deal with this problem. Progress toward removing all mines and UXO is slow, and may be impossible due to technical difficulties in identifying mines and UXO in the field. Areas of greatest economic value should receive highest priority for clearance, barriers need to be constructed for those areas that cannot be cleared at this time, and educational programs should be initiated. The U.S. military's unique technical knowledge helps these clearing efforts, but domestic programs need sound funding and implementation.

Water

As the demand for water grows with population and the economy, water supplies will be increasingly polluted from untreated sewage, from industrial discharges, and from salt-water intrusion of overexploited water tables.

In Jakarta, it costs \$20M to \$30M annually to boil water for home use. In Manila Bay, heavily polluted by sewage, fish catches have dropped 40% in the last decade. Fish catches near cities in India and China also have experienced major declines. Of Taiwan's 20 million people, less than 1 million are served by sewers. Each day in Hong Kong, about 1 million tons of sewage and industrial effluent pour untreated into the sea - a volume to fill 500 Olympic swimming pools, according to Hong Kong officials.

Projecting to 2025, water shortages will affect India, China, North and South Korea, Cambodia, Thailand, Vietnam and the Philippines.

Water disputes have affected international relations for years. Although an agreement was reached in 1996, India and Bangladesh have disagreed on the sharing of the waters of the Ganges for more than 20 years. Greater numbers of international disputes will arise and be more difficult to resolve as populations increase and economies grow, thereby placing a greater demand on scarce resources.

A domestic resource allocation problem that is common to the Pacific Islands soon will prevail over Asia: high-use agriculture will compete with populations for scarce water supplies. While more than 80% of the water consumed in Asia is used for agricultural purposes, 60 to 75% is lost to evaporation before reaching the crops. A technological solution may be to encourage the use of water-efficient drip irrigation techniques, which are employed in less than 1% of all irrigated areas.

Overfishing

Fish are a key source of food for virtually all Asian states, providing one of the largest sources of animal protein to the world's fastest growing commodity market. The world's largest tuna fishery crosses the jurisdiction of at least 21 countries—as well as extensive high-seas areas of the Pacific Ocean—and involves harvesting by fishing vessels from 26 different nations. Across the Pacific and in many coastal and riparian parts of Asia, fishing is a significant part of the economic base, providing food, employment, revenue, and foreign exchange earnings.¹¹

World fisheries are being overfished as marine catches increased from 17 million metric tons (MMT) in 1950 to a peak of 87.1 MMT in 1996. As a result, there has been a steady increase in the frequency of clashes and incidents at sea caused by foreign fishing trawlers illegally encroaching into Exclusive Economic Zones and territorial seas.

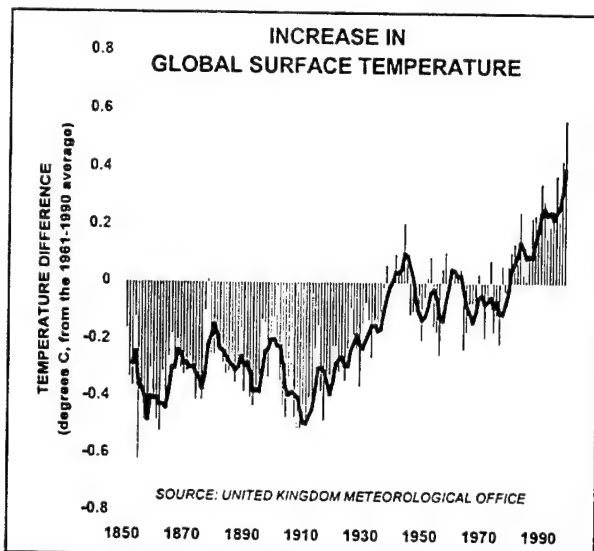
Aquaculture. Aquaculture production is a growing part of the fisheries sector. In 1996, 20% of all global fisheries production was from aquaculture. Asia dominates world aquaculture for fish, shrimp and shellfish, with China producing 68% of the global total. If done in an environmentally friendly manner, aquaculture can be a positive contributor to the world food supply. For example, giant tiger prawn production in Thailand has exploded from 900 to 277,000 tons in the last decade. However, reckless pumping of seawater into shrimp ponds can damage neighboring fields and hurt coastal marine life.

Common Regional Interests. To protect fisheries and insure sustainability, cooperative resource management schemes such as fishing quotas need to be established and enforced. Militaries, coast guards, law enforcement, and courts should cooperate to reduce the possibility of disputes, collisions, and pollution, such as negligent oil spills.

Global Warming

Carbon dioxide, chlorofluorocarbons (CFCs), methane, and nitrous oxide act like a glass in a greenhouse, letting the sun's rays in but trapping heat that would otherwise be released back into space. Carbon dioxide accounts for more than half of the warming affect, while CFCs contribute about a quarter and methane and nitrous oxide cause the remainder. Temperatures have increased .3 to .6 degrees C over the last century, consistent with the rise in greenhouse gases as predicted in recently developed computer models. Climate models predict that temperatures will be 1 to 3 degrees C higher in 2100.¹²

Figure 6-D



Rising ocean temperatures and melting polar caps will elevate sea levels by 15 to 95 cm in the next century.¹³ Bangladesh could lose 17% of its land area to rising seas, while several island nations, such as the Maldives and Tuvalu will become uninhabitable or disappear. Parts of Northern Europe and Canada will benefit from better harvests, but crop yields in India could decline by 30% by 2050.

The controversial solution of the Kyoto Protocol of December 1997 places legally binding limits on greenhouse gas emissions.¹⁴ The protocol aims to reduce emissions from developing countries to approximately 95% of their 1990 levels by the 2008 to 2012 timeframe.

Air Pollution

Air pollution from vehicles, power plants, incinerators and industry is a major problem in Asia. Outdated pollution control technology and the use of high polluting fuels compound this problem.¹⁵

Health. Nine of the fifteen cities with the highest particulate levels in the world and six out of the fifteen cities worst affected by sulfur dioxide are in East Asia. Air pollution in China caused more than 175,000 premature deaths in 1995 and nearly 2 million cases of chronic bronchitis. Damage to health and buildings cost Bangkok \$1B annually, while air pollution in Delhi decreased crop yields by 30%.

Cross-impacts. Air pollution, in the form of acid rain, can be transported hundreds of miles by wind before being deposited through fog, rain or snow. The acidic deposition damages buildings, degrades the environment and reduces crop yields. In India, wheat growing near a power plant suffered a 49% reduction in yield compared with that grown 22 kilometers away.

Transnational interest. South Korea and Japan are concerned about economic and health effects of airborne pollutants and acid rain from coal burning power plants in nearby China. China's heavy use of air-polluting coal blurs the distinction between domestic economics and transnational threats.

Technology. The developed countries have dramatically reduced the amount of pollutant emissions in the last 20 years through the implementation of new technologies. Widespread use of these proven technologies in developing and advanced Asian economies, coupled with cleaner burning fuels such as unleaded gasoline, natural gas and low sulfur coal can reduce total emissions regardless of rising energy consumption.

Implications for Cooperation

Since trade has a significant effect on environmental conditions, the World Trade Organization (WTO) is making efforts to address these problems in a multilateral forum. Also, the APEC forum is discussing environmental policy, technologies, sustainability, and education and information.

Countries are increasingly participating in global and regional conventions on atmosphere and oceans, protection of wildlife and habitat, and the handling of hazardous substances. The United Nations and the World Bank are providing aid through the Global Environment Facility (GEF) for countries suffering from spillover pollution of neighboring countries.

- Fledgling regional organizations are develop a dialog for resolving contentious issues by discussing environmental management; nature conservation; industrial, marine, and urban settings; and education, training, and information.
- Among these organizations are ASEAN, the South Asia Cooperative Environment Program (SACEP), the South Pacific Regional Environment Program (SPREP), and the Lower Mekong Basin Development Environment Program (LMBDEP). The latter organization links economic cooperation and development in Laos, Vietnam and Thailand, addresses food and power production, flood control, and navigation in the lower Mekong River basin.

Conclusions

Environmental issues are an underlying—and often neglected—cause for conflicts, disasters, or dislocations.

Militaries in the region may be called upon not only to resolve conflicts, but—like the U.S. Army Corps of Engineers—to use their organizational skills and resources to address both crisis relief and long-term issues of security and infrastructure.

Further—at the micro-economic level—each country's military faces a broad array of environmental challenges from the impact of their infrastructure and operations. The U.S. military is highly skilled in confronting these challenges. By sharing these environmental security practices with other countries, the U.S. military promotes good governance and sets an example for reducing environmental threats.

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CHAPTER 7 DEFENSE ECONOMICS

Defense economics is the allocation of scarce resources to meet spending and policy goals concerning military organizations, weapons industries, and procurement. This chapter addresses defense spending trends, the sustainability of spending relative to the economic strength, the accuracy and completeness of budgets, and the decision to make vs. buy weapons.

Spending Sustainability. The sustainability of a budget is a function of the health of the economy and the degree of defense spending. Figure 7-A illustrates the defense spending share of GDP for selected countries. These countries saw GDP growth exceeding defense spending growth, with a gradual downward trend in the share. With the Asian economic downturn of 1997, defense spending programs also dropped as budgets were put on an austerity basis. For these countries the defense share is under 4% of GDP. The International Institute for Security Studies estimates that in 1999 the country average for East Asia, Australia, New Zealand and the Pacific Islands was 3.7% of GDP and for the more contentious South Asia was 5.3% of GDP. North Korea is a severe outlier, with a defense share of 14.3% of GDP.

Defense Spending

Many Asian governments embarked on military modernization programs in the decade up to the 1997 Asian financial crisis. Nevertheless, when measured in constant dollar terms, defense expenditures were only modestly increasing at about 2% annually.¹ (See Figures 7-B and 7-C.) Asian countries with high long-term real growth in defense expenditures over the period from 1991 to 2000 were Singapore (8% annual increase), India (5 percent) and, using Stockholm International Peace Research Institute (SIPRI) figures, China (6 percent). Consequently it appears that the growth and direction of Asia's military spending was normal. The trend bears further scrutiny at the country-level, however.

Figure 7-A: Sustainability

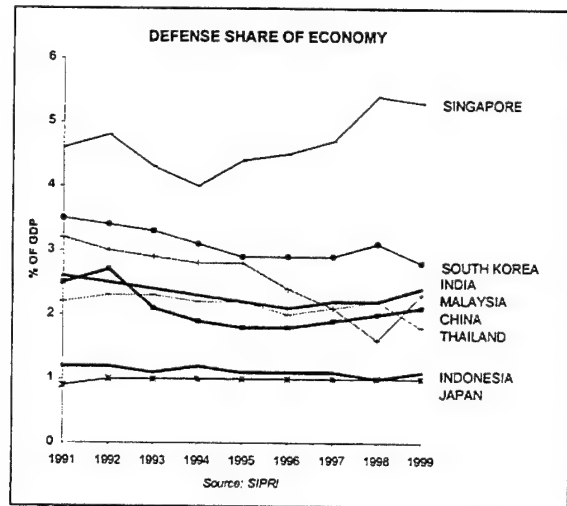


Figure 7-B: Southeast Asia Spending

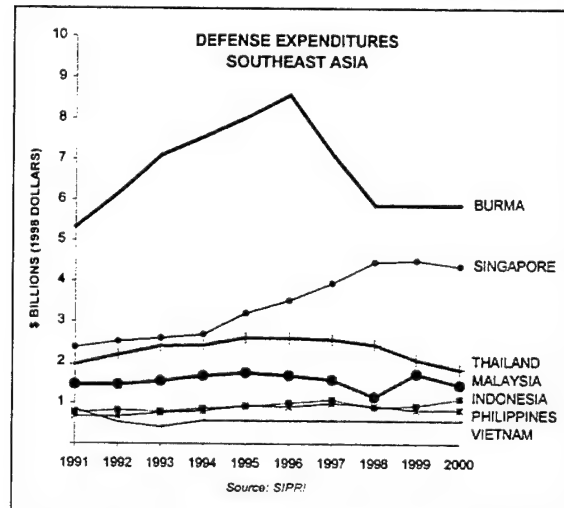
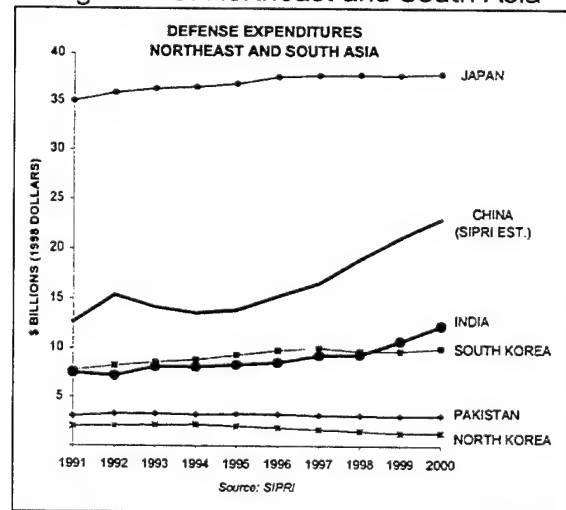


Figure 7-C: Northeast and South Asia



North Korea. The numbers alone indicate that all efforts are needed to rationalize North Korea's governance to the extent possible. North Korea has the fifth largest armed force in the world to defend such a minor populace. Such mismanaged spending contorts the sustainability of the budget and the economy, creates social stresses, and threatens regional security in the process.

China. China's defense spending is by no means transparent. For many years, much of the reported annual increases in China's official budget was absorbed by high inflation rates. However, the largest problem in estimating defense spending arises from inadequate accounting methods by the Peoples Liberation Army (PLA). Budgeted functions are hidden under construction, administrative expenses, and under state organizations such as the Commission on Science, Technology and Industry for National Defense (COSTIND), which mix PLA and other state activities. Further sources of income outside the national defense budget include official local and regional government expenses for local army contributions, pensions, militia upkeep and off-budget income from PLA commercial enterprises and defense industries, as well as income from international arms sales and unit-level production (e.g., farming). For 1995, the official Chinese defense budget was one-fourth the International Institute for Strategic Studies' (IISS) estimate and one-eighth the U.S. Arms Control and Disarmament Agency (ACDA) estimate. Therefore, according to some estimates, China is the biggest spender on defense in the region.

Japan. Japan has the second highest level of defense spending in the region, even though it is politically committed to maintaining its defense spending at no higher than 1% of GDP. This parameter is not to be confused with Japan's year-to-year increase, which averaged 1.4% annually from 1990 to 1998.

Vietnam. Defense spending declined during the 1980s, but since 1990 shows an annual 14.9% increase. Even during the regional prosperity of the mid-1990s, Vietnam had the tenth largest armed force in the world. Vietnam's defense share of GNP declined from 19.4% in 1985 to 3.1% in 1999 and is comparable to the average for Southeast Asian countries.

Singapore. Although the defense budget is fairly accurate and complete, some parts are not made public and quasi-defense corporations, such as Singapore Technologies are not included. Singapore strongly promotes management reengineering, unlike others in the region.

Thailand. Discrepancies exist between the budgeted and on-board numbers of soldiers. The budget does not include paramilitary functions or covert programs.

Philippines. The ambitious modernization program is off-budget. Figures intermingle humanitarian assistance, disaster relief, civic-action and nation-building programs.

Indonesia. In the early 1990s, Indonesia embarked on an ambitious program to obtain submarines and frigates. However, typical of a procurement binge, it did not calculate the sustainability of the gear in terms of maintenance, facilities, and operations.

India. India's budget accuracy is open to question, since only expenditures are reported. Supplemental budget requests are made from time to time, illustrating the budget planning problems. The budget is incomplete, as nuclear weapons and research development programs are not included. India initiated defense management reforms as a result of the 1999 fighting in Kashmir.

Figure 7-D

Defense Demand and Supply

Demand-side Needs. Factors that increase defense requirements include:

- Confrontations with neighbors, such as
 - Territorial and sovereignty disputes.
 - Competition over natural resources.
 - Managing bordering ethnic peoples.
 - Dealing with refugees.
 - Instability of a neighbor.
 - Nationalist and political posturing.
- Regional power relations, whether in cooperation or opposition.
- A desire for prestige.
- Cooperative efforts with the U.N. and other coalitions and countries, including peacekeeping operations, humanitarian assistance, and disaster relief.
- Obligations of treaty commitments.
- Negative, transnational issues such as terrorism, drug-trafficking, and environmental issues (e.g., pollution, deforestation, oil spills).
- Protection of microeconomic factors, such as watersheds, local sea-lanes, Exclusive Economic Zones (EEZs), marine resources, and fisheries.
- Protection of macroeconomic issues, such market access to trade, investment, energy, food, and other vital resources.
- Maintaining domestic law and order.
- The need to modernize forces due to competition and changing technologies.

Supply-side Inputs. Conditions that improve resource availability include:

- Economic growth and income.
- A smoothly functioning military-industrial complex and industrial base.
- The domestic availability of defense resources, such as manpower, natural resources, and industries.
- Objects purveyed by friends and allies.
- Assistance specified in treaties.
- Intangible things like the perceived reliability of external assistance.

Figure 7-E

Defense Sustainability and Macroeconomics in India

India's defense spending illustrates the interdependency of macroeconomic goals and the desire for security and stability.

Objective Function. India requires 10% annual GDP growth—not the current 6% rate—to achieve its primary goal of social stability, especially the reduction of poverty.

The Security Connection. Defense spending is a small 3% of GDP—allowing resources to be spent elsewhere.

- Given a small budget, the military relies on a nuclear arsenal, which is cheaper than conventional arms. (This approach is similar to that of the tightfisted Eisenhower Administration's use of the massive retaliation doctrine to avoid high defense spending.)
- Because India does not rely on conventional systems, regional stability is more vulnerable to nuclear posturing, especially during times of crisis.

The Government Connection. Government spending has been misspent, and—worse yet—allowed to go into debt. India defies Maastricht criteria for macroeconomic stability:

- The national fiscal deficit is 5% of GDP, while the criterion suggests less than 3%.
- External debt exceeds one-fifth of GDP.
- More than half of the budget goes towards debt payment.

The Macroeconomic Connection. Since deficit spending is a vicious circle that crowds out the demand for capital, long-term interest rates are high.

- High rates inhibit investment and growth.
- India's foreign direct investment is at a small 3.3% of GDP. Foreign investors would like to see a more open economy with even smaller taxes.

A Question of Balance. A safer world and more reliance on conventional arms rather than nuclear weapons is not possible until India finds a balance among its macro economic components.

Make vs Buy: Industries and Trade

Prudent defense budgets will link the decision to make or buy arms with strategic ends. Wasteful budgets can be avoided by combining an internal program of strategic management with an external program that participates in an open arms trade dialog.

Indigenous Industries. In a study of available world-wide company data, SIPRI estimates 13 of the Top 100 Arms-Producing Companies are in Asia: Japan (7 companies), India (3), Australia (2), and Singapore (1).² Equally important is the issue that industry data is not transparent for China, South Korea, and Taiwan.

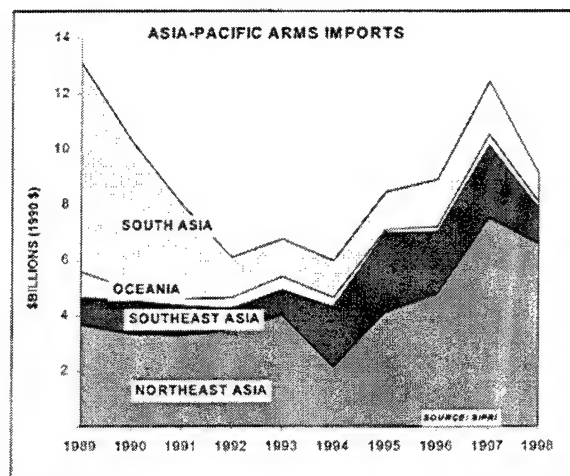
Questionable Motives and Agendas. Certain Asian arms producers are criticized for their proliferation of arms or components that are proscribed internationally, such as weapons of mass destruction (WMD), and long-range missiles. Others, such as China and Singapore, are criticized for promoting insurgencies and civil disorder by selling small arms.

India. In an effort for self-reliance after the 1962 confrontation with China, India created a widespread defense industry that includes 39 ordnance factories and eight defense public sector undertakings, such as Hindustan Aeronautics and Bharat Electronics.³ Its missile and nuclear production facilities are a contentious point in international relations.

China. State enterprises are found under many departments of the central government. Defense-related enterprises exist directly under PLA military organizations and also as separate defense enterprises usually connected with the research, development, and production of weapons systems.

Buying Arms. Asia was the world's largest arms market in 1998, with a 41% share, followed by Europe (28%) and the Middle East (24%). In the mid-1990s the decline in Asian arms imports paralleled global arms markets. Later, imports rose, were stymied by economic crisis, and now are resuming as economies strengthen. (See Figure 7-F.)

Figure 7-F



Conclusion. Budget managers across Asia find it difficult to identify a steady-state for calculating equipment needs and operational costs. Bad calculations may derive from false signals due to the combination of internal civil stresses and external challenges from neighbors. Ultimately, budgets need to be fully rationalized using a building block-approach that links ends, ways, and means. Although the United States military may not be exemplary in this regard, it is wise enough to see the merit of a region-wide dialog on promoting efficient and effective budgets. (Chapter 9 pursues some of the issues of defense governance in more detail.) The relationship of defense establishments to industry, technology, and trade also is fertile soil for study.

Endnotes

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SECTION III

SPECIAL TOPIC: GOVERNANCE

Ambition must be made to counteract ambition. The interest of the man must be connected with the constitutional rights of the place. It may be a reflection on human nature, that such devices should be necessary to control the abuses of government. But what is government itself, but the greatest of all reflections on human nature? If men were angels, no government would be necessary.

James Madison
Federalist Paper No. 51

While transparency and accountability had long been pillars of public governance in the West, in Asia the webs of power and money remain largely hidden from public view... We created a hybrid form of capitalism where patronage was put to the service of profit-maximization, indeed a recipe for unbalanced and unsustainable development.

Anand Panyarachun,
former Prime Minister of Thailand
February, 1998

How do we account for the persistence of poverty in the midst of plenty? If we knew the sources of plenty, why don't poor countries simply adopt policies that make for plenty? We must create incentives for people to invest in more efficient technology, increase their skills, and organize efficient markets. Such incentives are embodied in institutions.

Douglass C. North, 2000
In World Development Report 2002

CHAPTER 8 CORPORATE GOVERNANCE

Introduction. This chapter focuses on how corporations transform inputs of capital and labor to produce outputs of goods and services. It extends the analysis of economic growth factors presented in the first chapter by looking at the efficiency and effectiveness of the firm in an Asia-Pacific context.

Good governance of the firm is key to the success of any economy.¹ It is analyzed here at the strategic and operational levels.

Strategic Effectiveness. The firm's effectiveness is structured by the roles of other institutions that provide capital, labor, and markets. That is, strategic governance includes the way that an economy combines savings and capital with labor policy to achieve economic output.

- Strategic trends in the development of Asia-Pacific firms have been particularly shaped by global capital flows generated by trade and foreign investment and by unique approaches to dealing with labor.

Operational Efficiency. The firm's efficiency depends on all of the business practices that allow it to produce outputs in a cost-effective manner. That is, operational governance includes the way that firms are structured in terms of organization, their dealings and negotiations in the marketplace, and legal aspects of property and bankruptcy.

- The operational governance of Asia-Pacific firms has been strongly influenced by the role of families, cultural styles of bargaining, and the degree of private ownership in Asia-Pacific societies.

Figure 8-A illustrates the important connections that capital and labor have as inputs to an economy that has macro-economic, micro-economic, and institutional-economic dimensions. At the center of this diagram, the firm is a central institution that has connections to other institutions as well as to macro-economic and microeconomic matters.

This chapter first assesses at the strategic level how capital and labor shape the character of Asia-Pacific firms. Then after examining recent corporate trends, it provides illustrations of corporate operational governance. It addresses the roles of corruption and standards in corporate governance, and concludes with observations on the criticality of markets and sound supporting institutions.

Figure 8-A
Economic Analysis Hierarchy

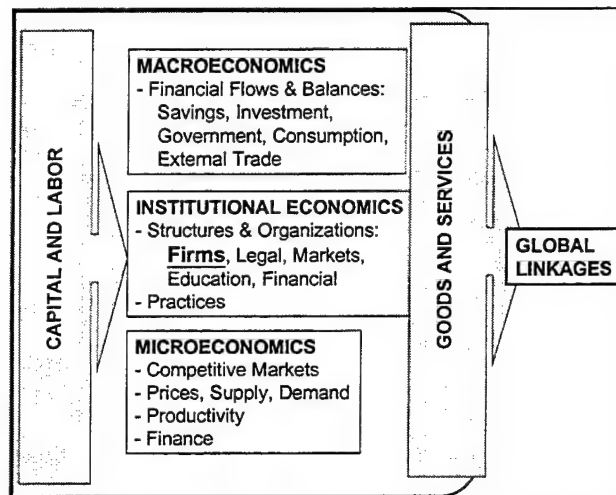


Figure 8-B

Governance and Globalism

Governance and globalism are intertwined concepts, but have separate foundations.

- Globalism typically refers to the transnational flow of goods and ideas, whereas
- Governance refers to the internal quality and productivity of institutions and their relationship to broader economic and social goals.

Although global trends place stresses on society and the environment, the root cause of a problem often is the style of governance and not the openness to trade or ideas. That is, countries with good governance adapt outside trends; while mismanaged regimes isolate themselves from both internal and external reforms. This internal mismanagement becomes the primary source of broader economic, environmental, and social ills.

Strategic Governance of Capital

In many Asia-Pacific countries, selected financial institutions are used to direct large sums of personal savings to firms for economic production. Additional capital is generated from high savings rates that are encouraged by consumption-restricting life styles.

- In Japan, the savings of workers are deposited in postal savings accounts that provide a form of social security for retirement. Japan's banks then direct this capital toward corporate investments.
- In China, worker savings are deposited in government banks, which then re-direct the capital to state-owned enterprises.
- In Singapore, many workers live in small, standard public apartments, which constrict consumer spending and promote savings.

However, poor governance of these financial institutions restricts capital flows to corporations.

- In China, government banks invest in government companies, where decisions often are based on collusion and political connections, rather than economics.

Flows are restricted also by poor macroeconomic policy concerning interest rates. For example, sound corporate investment decisions are based on ranking potential projects by their rate of return and then selecting those whose return exceeds interest rates offered by banks.

- However, Japan has lowered nominal interest rates to very close to zero, so that no careful stratification of projects exists.

Capital Findings. These examples of capital flows suggest there is better governance through:

- A separation of powers between private risk-takers and public enforcers.
- Better governmental oversight of banking and corporate behavior.
- More competition among financial institutions—including families, banks, stock markets, and derivative markets.

Strategic Governance of Labor

The other key source of a firm's input—labor—is driven by governmental institutions that direct education, retirement security, and social policy concerning ethnicity and organized labor.

Education. Many Asian education systems rely on memory skills rather than verbal and analytic skills. In some settings, the questioning of teachers is taken as challenging authority. In modern corporate settings, management and employees are expected to respond to dynamic problems that require constructive interaction and feedback. Asian education systems need to encourage design and communication in place of tradition and authority. That is, students need creative and critical thinking skills, rather than rote learning.

Retirement and Social Safety Nets.

- Japan's larger firms have policies of keeping employees for life, with the expectation that bad cycles can be weathered-out. Of course, the costs of maintaining a disproportionate share of labor inputs are more a matter of social policy than economic efficiency.
- When the IMF called for austerity during the Asian Economic Crisis of 1997, the World Bank issued a call to protect the poor, who were especially hard-hit by increased food and fuel costs. Proposed measures include the creation of unemployment and social security systems similar to those of advanced countries.

Ethnic Factors. A key faultline exposed by the Asian Economic Crisis is that among ethnic groups in Asia, especially regarding the aloofness of business-oriented overseas Chinese from local populations.

- In Indonesia, the economic crisis uncovered a longstanding resentment against wealthier Chinese, resulting in riots. However, some attacks were simply efforts at extortion and did not solely suggest racial animosity.
- In Malaysia and Burma, racial preference programs promote majority groups.

However, these programs often become political pawn-pieces for politicians seeking legitimacy among their population.

Organized Labor. Many of Asia's authority-oriented businesses view unions as enemies, rather than as representatives of an often overlooked constituency. The formation of unions helps to promote a multi-dimensional political process. Further, labor's goals of prosperity and increased quality benefit an economy in the form of increased economic demand.

Labor Findings. These examples suggest that better governance of labor can be obtained through:

- Education reform, which can be a key multiplier for economic growth when it promotes creative and critical thinking skills.
- Social institutions, which promote worker's security and social and political stability. Retirement and welfare institutions are weakly developed in the Asia-Pacific region.

Strategic Corporate Trends

The governance of capital and labor as inputs to a firm's production is also illustrated by their trends over the last decade. Many Asia-Pacific firms have combined labor and capital in particular patterns that are undergoing change. These patterns concern the role of the state in directing input flows, the informality of family businesses, and the over-reliance on high quantities of inputs at cheap prices.

Role of the State. As observed in the first chapter, there is no standard template whereby Asia-Pacific governments employ economic policy. In the past, Asia-Pacific governments were unafraid of using government-controlled firms, especially for high capital infrastructure projects such as transportation, telecommunications, and energy.

- Lessons from the World Bank on development are distilled into the rule of thumb that governments should do less in areas where markets can succeed and should do more in areas where markets

cannot be relied upon.² That is, government should invest and build in the areas of education, health, poverty reduction, social and legal infrastructure, and macroeconomic security.

- Collusion between government and the firm contaminates a firm's efficiency, especially when profits are redirected to government schemes.
- Across the Asia-Pacific region, collusion of government and corporations is highly correlated to the institution of family firms and paternal oligarchies.

Corporate Transitions. Studies performed by the Asian Development Bank suggest that Asian corporate governance is undergoing a period of transition from informal to formal practices.³

Family Firms. During Asia's phase of rapid economic growth in the 1990s, state and business behavior was based on personal authority, such as that of a family head. In the mid-part of the 1990s business law had been established in Asian countries; however, it was not strongly enforced.

The reliance on personal authority—such as on a handshake when closing a deal—was unchallenged during the prosperous years of the 1990s. Family businesses profited simply by being in a growing sector—the underlying management sciences were ignored.

- However, the tremendous inflow and outflow of capital in the 1990s fractured the ability of government and family business authorities to carefully allocate resources.

Today in Asia, economic laws and institutions are now focusing on legal incorporation, on the role of shareholders, and on the role of contracts.

- Family businesses are merging and incorporating, and revived corporations are professionalizing their management and financial practices.
- These trends towards formal business practices help high-volume investors—both foreign and domestic—who require transparent information about corporate

accounting, freedom from fraud, and sound market oversight by the state.

The Producer Model. Another factor shaping the character of the firm in Asia-Pacific economies is the producer-oriented approach used by Japan in the late 1900s. This model focused on using labor that was cheap and plentiful. This approach relied on high quantities of cheap labor and capital in order to produce industrial and consumer goods, especially for the U.S. market.

- To maintain this approach in the 1980s and 1990s, many of Japan's industries were "hollowed-out" as labor-intensive portions of business were moved to South Korea and Southeast Asia to be produced by less expensive laborers.
- To support this approach, many Asian governments maintained price controls on popular consumables, such as rice and gas, to keep labor costs low.
- A corollary of this model was that laborers should remain cheap and not become consumers.

Quality is Important, Too. However, the long-term viability of this cheap-inputs producer-oriented model is suspect:

- By maximizing volume, firms may ignore market needs, may overbuild capacity, or may waste resources to meet political goals.
- Accustomed to growing markets—and not cyclical markets—producers are unaware of their inefficiencies and learn lessons too late—after demand collapses.
- Decisions on resource-allocation are often directed by ineffective outsiders or uninformed investors, rather than by the efficient methods of open markets.
- Low-wages and low worker standards do not encourage the degree of product innovation and production-line efficiency that are needed to compete in global markets.⁴
- Foreign consumers demand quality in their purchases, which leads firms to using better quality control practices.

The Consumer Model and Diversity. Another trend in the role of firms is that towards consumer-oriented markets. Production for export markets in the 1980s and 1990s generated a new middle-class and a wealthier working class. By the mid-1990s, the countries of Asia were emerging as lucrative consumer markets in and of themselves.

- The diversity of markets in Japan and the United States led to a variety of production sectors in the Asia-Pacific region. This diversity of economic sectors generated corresponding political interests.
- The source of income and power for these new sectors often was external to traditional political sectors.
- This diversity created middle-classes in Asian exporting countries,
- Whereas the old colonial approaches in Asia focused on exporting single resources and products, the global economy today encourages multiple sources of income and power.
- This diversification corresponds to a trend in political power that is moving away from oligarchies towards democratic faction-building.

Findings on Corporate Trends. To promote stable, self-reinforcing economies connected to global markets, strategic policy needs to promote both producers and consumers.

- Producers need viable markets and sound financial and legal institutions that encourage competition.
- Workers become a key element of the consuming class—adding breadth to economic demand and stability to social processes.
- As consumption and quality of life issues become emphasized, economic security issues become important, such as those addressed in Section Two of this report—energy, commerce, population, and the environment.
- The future path of these economic security issues will be largely determined by the quality of the supporting institutions in each country.

Operational Governance of Corporations

The following illustrations of the internal structure and behavior of Asia-Pacific businesses demonstrate the nuances that make it difficult to resolve corporate problems.

Organizing Through Megacorporations. A common feature across Asia is the creation during the last century of large business organizations that grew through government-assistance and authoritarian management.

- Government construction and trade policies shaped businesses in Japan (called *Zaibatsu*) and Korea (*Chaebol*).
- In the Philippines and Thailand, small groups of authoritarian, family-based businesses captured key markets.
- State-owned enterprises direct several key economic sectors in China, Indonesia, Malaysia, India, Burma, and North Korea.

Culture and Deal-making in Indonesia. Business negotiations in Indonesia have a strong basis in community consultation. Business operations aim to create symbiotic relationships with the surrounding community so that the community feels it has a stake in protecting it. The decision process called *Musyawarah* is based on consultations of neighborhood councils that are overseen by a local law officer and usually result in a consensus drawn up as a communiqué.

- Business decisions therefore incorporate social criteria and are not solely based on microeconomic profitability factors.
- Negotiations are an ongoing interaction with the community, so contracts are often viewed as flexible.
- Indonesia's judiciary was corrupted during the Suharto regime, so neighborhood relations often substitute for formal legal processes and are key to business success.
- At the extreme of this communal process, a seemingly peaceful community may resort to mob-violence.

Ethnic Socialism in Malaysia. In Malaysia during the 1950s and 1960s, community riots

against Chinese and Indian merchants led to the *Bumiputra* policy that forcibly integrated Malays into the business world. This affirmative action program created quotas in education, civil service, and public and private enterprises.

- What ensued was a partnership between Sino-Indian economic powerhouses and Malayan politicians. A shell-game of moving functions between public and private control resulted.
- Provided that there is growth, this small group of people succeed royally.
- However, during economic setbacks, political power brokers deal capriciously with opposition and competition. For example, the Prime Minister's political rival and former economic advisor is now incarcerated—discouraging investors.

Bankruptcy in Indonesia. The Indonesia loan-word *bangkrut* indicates an absence of money and an inability to pay, rather than a legal process to assist creditors in recovering assets. Because power resides with the businessman and his supporting politicians, the economic system is self-defeating in an economic downturn. Although, creditors lose their money, the amateur businessman-politician still keeps his job. As such, bankruptcy reform in Indonesia is a slow, political process.

Pacific Islands Socialism. Property ownership in the Pacific Islands is traditionally a communal right that is controlled by local chiefs. This economically awkward system is circumvented by leasehold procedures; however, long-term investments are difficult.

- This system is compounded in Fiji, where ethnic Indian farmers create agricultural profits that ultimately are controlled by chieftains.
- When island chiefs run government, inflows of aid are directed toward fruitless public jobs rather than productive economic sectors. This economic quandary will be dramatic for the Marshall Islands and the Federated States of Micronesia, where U.S. aid is scheduled for downsizing.

Operational Governance: Corruption

The Problem (in Theory). The equating of corrupt practices with illegal acts that deserve punishment is especially problematic in Asia-Pacific countries. From the point of view of high-level employees, business and government often intertwine personal success and public good. At administrative levels, poorly paid employees may seek the survival of their family through questionable practices. Whether blue-collar or white-collar in nature, corruption becomes a matter for judicial systems when the crime harms economic and social efficiency.

The Problem (in Practice). Two key findings are that corruption levels vary by country and that organized crime is pervasive.

- **Country Variations.** Although subjectively estimated by Transparency International, the depiction of corruption in Figure 8-C sets a foundation for discussing corporate governance and anticipating troublesome countries.⁵
- **Organized Crime.** Present-day Asian criminal organizations, often called Triads, originated during the dispersion of ethnic Chinese over the last few centuries and has since modernized and diversified.⁶ Triads are a key constraint on instituting economic reforms, especially in properly liquidating non-performing loans and in enforcing bankruptcies. Further, they impede the War Against Terrorism through non-transparent banking and money-laundering.

Proposed Solutions to Corruption. Both the U.S. Congress and multilateral institutions such as the Organization for Economic Cooperation and Development (OECD) have renewed longstanding efforts to get multinational corporations to adopt anti-bribery measures. However, the pressures within individual countries to reform their international corporate, banking, and financial institutions have been modest.

Figure 8-C

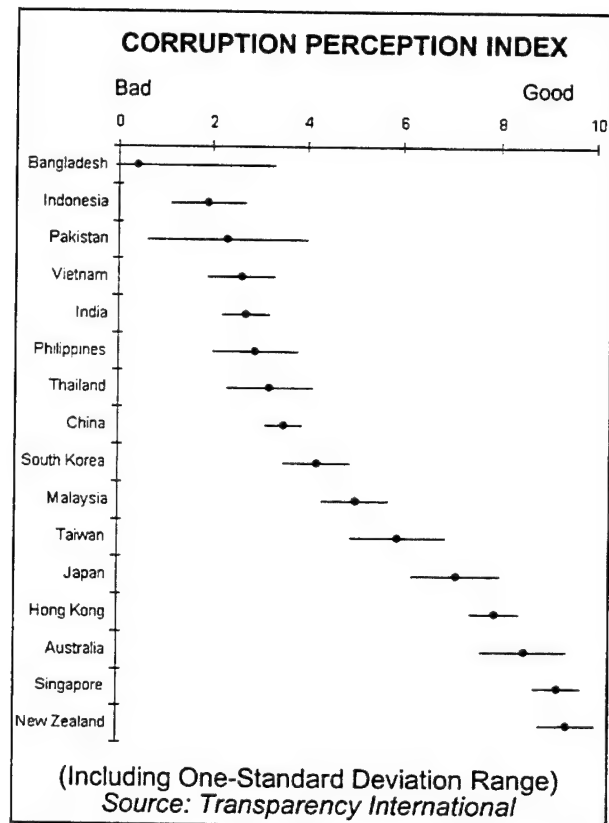


Figure 8-D

Terrorism and Corporate Governance

Organized terrorism can be viewed as a corporation turned neurotic. Its methods are counterproductive and can be used against the perpetrator once he is in power. Nevertheless, terrorist behavior is widespread in the Asia-Pacific region.

- A key constraint in resolving financial and social support to terrorists in Asia is the fluidity, non-transparency, and intransigence of Asian corporate governance styles.
- Organized terrorism is evident in the civil-military clashes in Sri Lanka, the Philippines, and India.
- Maritime piracy in Asian waters also meets the definition of international terrorism in that it is organized, often through Triads, and seeks to harm not only innocent civilians but also to disrupt international commerce.

Operational Governance: Corporate Standards

Besides simplistic exhortations for reform, there are concrete procedures that are available to improve economic efficiency at the firm level. Among these are the implementation of sound standards and policy.

- At the international level, the IMF sponsors codes for institutional transparency of fiscal, financial, and monetary practices.⁷ The Basle Committee for Banking Supervision promotes core banking principles and mutual accords.⁸
- International associations promote specific functions such as securities commissions and insurance regulators, as well as professions such as auditing, accountancy, and international law.
- Complying with international standards is a passport for an entire company to obtain credibility and creditworthiness on an international scale, regardless of problems in their home-country. Originally designed to encourage interchangeable parts, international standards are also published for accounting and engineering by the International Accounting Standards (IAS) and the International Standards Organization (ISO). The ISO-9000 procedure is a rigorous application of industrial engineering practices that improves corporate governance.⁹

At the policy level, a primary objective of any economic policy should be to promote competition, thereby weeding out poor performers and rewarding achievers.

- Participation in the World Trade Organization (WTO) and the International Labor Organization (WLO) promotes healthy competition and accounts for economic externalities like labor, the environment, and social equity.
- While it is controversial to submit to external organizations or standards, the degree of compliance is a good indicator of corporate health, acting as a scorecard similar to those of credit ranking agencies. These schemes create roadmaps for a

qualitative improvement in corporate governance.

Conclusion

Taking the Medicine. While prescriptions for healthy economic governance have been available for some time¹⁰, their implementation is difficult due to the unique institutional constraints found in Asia-Pacific countries.

- The history of many Asian states derives from centrally managed governments who find it difficult to relinquish power and enforce market-friendly approaches that encourage diversity and competition.
- Despite kleptomaniac bureaucrats and businessmen, the Asia-Pacific region is undergoing a major evolution of institutions towards mature governance methods.

Markets and Institutions. Not only are free markets necessary, but their effectiveness hinges on building viable supporting institutions. The World Bank presents the following four lessons for success that can be derived from the economic transitions in Asia during the last decade.¹¹

- Complement new structures with existing, local institutions and conditions.
- Promote innovation and experimentations of both public and private forms. When experiments become infeasible, drop them.
- Encourage markets by infrastructures that encourage the flow of information and trade. Restrictions on the press, on trade, or on human rights are counterproductive to economic growth and security.
- While competition is difficult to encourage among those in power, it is a sound formula that increases options, highlights successful people and institutions, and multiplies supply and demand.

Institution-Building. This survey suggests that Asia-Pacific business goals, structures, and behaviors are slowly transitioning from small, exclusive organizations based on authority and the family to larger, competitive organizations based on internal efficiency and market effectiveness.

- This transition is painful, but political and business leaders are realizing that long-term success can only happen through sound business and economic practices.
- The transition will be smoothest for those countries promoting a rule of law that governs the behavior of business and people alike.

Shock and Reform in the Asia-Pacific Region. The economic takeoff experienced by the Asia-Pacific region in the 1990s was based on a combination of traditional and modern systems that today is being reassessed by people in the region. This reassessment of governance and globalism is the outgrowth of ongoing economic setbacks. The preceding view of corporate governance in the Asia-Pacific region suggests that further development is attainable by building sound economic and social institutions that focus on economic efficiency and effectiveness.

Endnotes

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Approach to Assessing Corporate Governance Risk in Emerging Markets, 2001 (www.bis.org/publ/).

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CHAPTER 9 DEFENSE GOVERNANCE

Defense governance is the technique of managing resources to achieve strategic goals. That is, defense governance can be summarized in the economic terms of "supplying the demand"—or converting means (or inputs) into ends (or outputs). But as Figure 9-A illustrates, governance includes not only issues of defense economics but also matters of defense relations—both internal and international.

- While traditional methods of corporate governance can have fruitful application to the internal management of defense, the external interfaces of defense establishments are quite different from corporations.
- The explicit design of strategic interactions with foreign governments and among internal organizations—including civilian populations—is of paramount importance in describing and prescribing defense governance practices.

The U.S. Congress has shown an increased interest in the role of defense governance for maintaining regional stability. In response, the U.S. State Department and supporting military attachés periodically appraise the various styles of defense governance around the world.¹

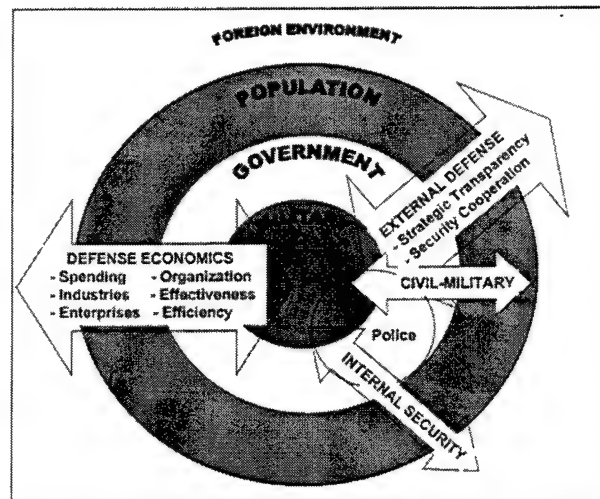
This *Asia-Pacific Economic Update* builds on State Department appraisals by depicting Asia-Pacific examples for each of several dimensions of defense governance.² These dimensions of analysis include:

- Defense Economics. Chapter 7 points to issues of defense spending, defense industries, and defense enterprises as well as military organization, efficiency, and effectiveness.
- Domestic Defense Relations. The history of many Asia-Pacific defense establishments is replete with examples of a strong role for the military in domestic governments. This past aggressiveness takes on three sub-dimensions:

- Internal Security Practices, including defense relations to internal law and order and the degree of separation of military and police functions.
- Civil-Military Relations, including the constitution of the government in terms of the role of the military within the government, of government control of the military, military interagency relations, and military interactions with domestic populations.
- Commercial Defense Enterprises, including the role-playing of defense officials acting as profit-making businessmen in commercial markets.
- International Defense Practices, including:
 - Transparency, that is, the open publication of strategic ends and means.
 - Security Cooperation in the form of participation in bilateral and multilateral security communities.

Figure 9-A

DEFENSE GOVERNANCE STRUCTURES



The following sections carry on the discussions of governance by describing external defense practices as they relate to domestic and international organizations. The illustrative examples of Asia-Pacific countries point to the wide variety of approaches to defense governance.

Internal Security Practices

Many Asian countries have tried to mix military and police organizations in order to achieve domestic law and order. Today, most Asia-Pacific countries have achieved a balance between military and police functions. Countries like China and Indonesia are undergoing major re-organizations as they try to specialize along purposeful lines. Others like Sri Lanka and Burma are lost in quandaries as they try to use militaries to solve internal political problems.

The practice of combining the military and police functions gains economies of scale when resources and firepower are pooled. However, the use of force often polarizes populations and may overlook political factors such as the need of the people for safety, representation, and justice.

China. Because of its size in terms of territory, population, and economy, China's internal security structures are likewise large and often problematic. The need for specialization of security forces was demonstrated during the Tienanmen protests of 1989, when the army's image was tarnished.

- During the 1990s the People's Liberation Army was downsized by over one million personnel, but a large share was transferred to the People's Armed Police (PAP).
- Some of the PAP manning was in turn downsized, but the force remains powerful. PAP has one million people in the functions of internal security, border defense, guards, and communications.
- Today's PLA is oriented towards external defense while supporting the Party's functionality. As such, the PLA remains a backup force for internal security.

Indonesia. The Indonesian federal government is experiencing significant internal problems across the Indonesian archipelago in Aceh, Maluku, and elsewhere. Indonesia's control over the former Portuguese colony of East Timor proved to be unmanageable, and in 1999 East Timor achieved independence.

- The government's policy of dual-functions (called *dwi-fungsi*) directed the military to

protect both society and nation, but also allowed the military in a strong role in domestic politics and economics.

- In 1999, the police were administratively separated from the military in an attempt to clarify functions.
- This division of labor makes it easier for a professionally-oriented Indonesian military to interact with U.S. and other militaries, who are concerned about working with human rights violators.

Sri Lanka. Since its disenfranchisement in the 1950s, the Tamil ethnic group has struggled for autonomy. In 1983 the struggle turned violent and has claimed 66,000 lives over the last 19 years.

- Sri Lanka places its police force under the Ministry of Defence. A 3,000 member anti-guerrilla unit exists, as do National Guard and Home Guard units. Both police and army have sizable reserves recalled from the population.³
- The intermixing of military and police implies that the government treats its insurgent citizens as enemies to be conquered and not criminals deserving justice.⁴ Further, the use of military force is often applied remotely—by air strikes and aerial resupply—that does little to solve the political hearts and minds problems on the ground.

Burma. Having ignored the elections of 1988, the government lacks popular legitimacy and relies on a tradition of force to stay in power.

- The relationship among military, police, and intelligence organizations remains fuzzy and based on personal loyalties.
- The federal government's inept relations with remote ethnic groups distract the military from its defense duties. Thousands of Burmese refugees crossed borders into Thailand, India, and Pakistan, —producing border relations that are smoldering and potentially explosive.
- True discipline and professionalism in the Burmese army is weak—as proved by the extensive records of inhuman practices of false imprisonment, slave labor, and torture.

- Internal control is weak in places. Private armies exist in areas of remote poppy cultivation, supplying the international drug trade.⁵ Ethnic resistance in mountainous border regions has been brutally and systematically co-opted and brought under nominal—but unsteady—control.

Civil Military Relations

Perhaps the most complicated—and potentially most fruitful—dimension of governance is the study and resolution of problems among the population, the government, and the military. This dimension includes not only the role of civilian control of the military and its budgets, but also the role of the military in government and society.

Over the long history of Asia's defense establishments, the role of the military in civil functions is intertwined with government control of the military. The following examples illustrate the resulting breadth of Asia's civil-military relations in terms of:

- Military involvement in government.
- Governmental direction and control of the military, especially regarding executive and legislative branch control of defense budgets.

Military in the Government. The armed forces of many Asia-Pacific countries avoid overtly political activities and partisan political pronouncements. These include Malaysia, Singapore, India, and Japan, among others. However, coup attempts are still a recent memory in many Asian countries, and still occur in several Pacific Island nations.

Indonesia. As noted, the dual function, socio-security role called *dwi-fungsi* gave the military a strong role in politics and the economy. However, the Asian economic crisis revealed weaknesses in government that are being examined after the political elections of 1999.

- Because of abuses and factional infighting, police and defense roles are being separated.
- Generals accused of abuses were forced into retirement, and today more

professional military functionaries are working with the administration to advance reforms.

- In November 1999, Indonesia appointed its first civilian Minister of Defense and Security (MODS), who was personally approved by the President. Generally, defense appointments remain within military MODS control.

Figure 9-B

Civil-Military Governance and International Terrorism

International terrorism is a key example of the interwoven nature of security governance and civil-military relations.

- Terrorist leaders purposefully confuse their approach to the governance of their organization; i.e., they attribute social ends to their criminal means.
- On the civil-side of government, good governance needs to promote the ends (terrorist deeds are punished) and the means (through a sound and fair justice system).
- From the security side of government, armed forces often overlook their hearts-and-minds mission, and may respond in a confused manner with firepower.

Good governance distinguishes between the military and judicial uses of force, i.e., between an armed soldier in the countryside and an armed bailiff in a court.

- The near-term problem of counter-terrorism is to cut internal and external means of moral, physical, and financial support to terrorists.
- The long-term ends are to maintain popular support through a sound justice system and through the hope of economic prosperity.

Thailand. Unlike in previous decades, the 1990s saw four successive and peaceful transfers of civilian governments in Thailand.

- The 1997 Constitution banned active duty officers from running in Senate elections.
- Given Thailand's economic potential and the increased role of the middle class in

politics, the Thai military remained "in the barracks" during the 1997 economic crisis. Civilian problems were left for civilian solution.

- The military has concentrated on improving professionalism and has tried to reduce the army's role in politics, diplomacy, and business.

Vietnam. While the Vietnam Communist Party exercises control over the military, the military also is a significant participant in the government and society. Its members belong to the highest levels of party and government.

Philippines. Civil-military relations in the Philippines were tested in 2001 when the president was charged with corruption. Rather than intervening, the army and law enforcement organizations accepted a rapid installation of the vice president.

Government in the Military. In contrast to the adventures of the military in trying to govern a country, the role of the central government in overseeing the military usually is more mundane. Supervisory functions concern the management of defense budgets, personnel, and strategies, as well as ensuring the rule of law. Further considerations include the degree of oversight by parliamentary bodies and by civilian-led organizations belonging to the executive branch.

India. The civilian government nominates, approves, and can remove high military officials. (In 1998 the Navy Chief was removed for corruption.) Besides parliamentary oversight of the defense budget, the media also play a strong public role in reviewing defense issues.

Thailand. The King and Prime Minister maintain civilian control over the military. In preceding years, the Prime Minister rejected military service recommendations for service chiefs. Parliament is seeking more say in the defense budget and the military appears to be gradually yielding ground to Lower House demands for accountability. Media scrutiny of budgets remains healthy.

The Philippines. The role of the media and popular dissent are strong in the Philippines, and the government thrives in this

environment. Both the media and congress have strong influence over defense budgets.

Malaysia. The civilian leadership sets the overall defense policy orientation and determines the size of the defense budget. Parliament debates defense budgets.

Singapore. The Singapore military is under direct civilian control. The budget is subjected to annual public debate in parliament. Furthermore, Singapore has a constitutional cap on the defense budget similar to Japan's, which in Singapore's case is set at 6% of Gross Domestic Product. (Singapore's budget has never reached this ceiling.)

China. China's collective leadership is based on the pervasive authority of the Communist party, which is reinforced by military and security organs. All key government leaders also hold significant positions in the Communist Party. Stability is maintained by the military's strong support for the Party. Top-level national security issues are overseen by Party's Politburo with the counsel of the most senior military leadership body, the Central Military Commission (CMC).

Japan. Civil-military governance in Japan is a very visible matter in Japan, whose constitution sets a cap on defense spending of 1% of GDP. Both executive and legislative branches are involved in defense budgeting and policy processes. Both government and media closely monitor military activities.

Commercial Defense Enterprises⁶

Many military-controlled enterprises in the Asia-Pacific region produce more than military products, but also actively sell goods and services to commercial markets. Of course, it is very difficult to identify analytically the portion of defense commercial enterprise income that supports defense budget needs.

China. Many PLA enterprises grew out of logistical support for the military, such as lodging, apparel, transportation, and medicine. The PLA has relied on income from entrepreneurial uses of its assets since the 1980s. However, the problems of fraud, waste, and abuse caused by PLA commercialism are widespread, impacting on both military readiness and market efficiency.

PLA commercial abuses flourished because of lax supervision and the extra-legal status of the military businesses.

Authorities are concerned about the impact on military readiness and professional standards. In 1998, Jiang Zemin instructed military, paramilitary and law enforcement organizations to divest themselves of commercial activities. Most have done this, however, many of the original enterprises have been allowed to continue, such as the PLA Air Force's air carrier, China United Airlines.⁷

Indonesia. Because much of Indonesia's defense funding derives from income from widespread defense enterprises, the military remains largely outside of Parliament's budgetary control. The intermixing of federal and local officials with foundations, holding companies, and companies is complex.

Vietnam. Military enterprises possess widespread commercial activities, having earned about \$600M in 1998.

Strategic Transparency: Ends and Means

Transparency measures such as arms registries and defense white papers are a key element of good governance. Arguably, Asia-Pacific regional security is enhanced through official statements on security strategy, even when done on a unilateral basis. However, the debate on the merits of transparency remains murky. (Figures 9-B and 9-C present arguments for and against transparency.)

Throughout the region, the rise of economic globalism and telecommunications has greatly increased how observable security assets are. As these means of security become more open to observation and debate, so to are the ends. Democratic institutions promote a dialog about strategic ends that takes root in the will of the people, rather than the will of some oligarchy. Given the rise of democratic institutions, conditions under which the region's international relations operate are quite different from those of previous decades.

The openness of mass media is increasing the transparency of arms transactions, military budgets, and national security intentions. Lagging behind these efforts, however, are

official white papers on national and military strategies.⁸

Asia's security establishments are wrestling with secrecy and openness as they cope with newfound economic concerns. While trying to modernize forces, maintain budget austerity, and reform defense institutions, they also seek to identify security threats and needs.

Figure 9-C

Arguments Against Transparency

- Secrecy and surprise enhance one's chances of success in a military operation. In wartime, secrecy of capabilities, methods, strengths, and deployments provides obvious advantages over opponents.
- In peacetime, maintaining secrecy for potential operations takes on many forms. Specific secrecy requirements are required in planning and policy offices, operations and intelligence departments, defense research organizations, and defense industries.
- Further, foreign ministries are keen to cloak their policy maneuvering.
- Counter-argument: In peacetime, these parameters are continually changing and are subject to intangible factors that significantly modify the force equation, often making secrecy a red herring.

Transparency of Means: Arms Registers.⁹

The United Nations Register of Conventional Arms was instituted in 1993 to create a database on arms capabilities based on global standards.¹⁰ Originally intended to identify the export and import of arms, UN formats also provide for the voluntary submission of information on indigenous arms production as well as military holdings.¹¹

- In 1998, Australia, India, Indonesia, Japan, Malaysia, Philippines, South Korea, Singapore, Thailand, and Vietnam volunteered arms trade information.
- Australia, New Zealand and Japan volunteered supplemental information.
- China was noticeably absent in 1998.

Figure 9-D

Arguments For Transparency

Proponents for transparency exist at the international, national, and defense levels. Progress at each level encourages efficiency and effectiveness at the others, creating a positive feedback loop that promotes regional security.

International. When potential opponents have knowledge of mutual intentions and capabilities, they are less likely to miscalculate their strategy or engage in capricious threats to regional peace. Transparency efforts help to:

- Give early-warning on arms build-ups.
- Deter arms races.
- Make relations more predictable.
- Encourage a regional diplomatic dialog.
- Counter-argument: Obviously, credibility of information is key to these arguments.

National. Transparency improves efficiency and governance of the overall economy, as well as of the national budget and of the defense budget itself. Openness helps to:

- Support dialog between executive and legislative branches, including the military.
- Encourage public dialog for balancing social, economic, and defense priorities.
- Centralize control of defense. Subordinates are not allowed to hide behind a cloak of secrecy.
- Avoid wasteful spending on unnecessary projects.

Defense. Avoiding waste is a key goal for defense officials, who seek an efficient allocation of resources given a limited budget. Given budgetary constraints, defense strategists seek a balanced force structure—where the utility of the last dollar spent on a force item is the same across all items. This "economy of force":

- Promotes professionalism by concentrating on defense missions rather than political or economic entanglements.
- Exposes military fiefdoms that may focus on sub-optimal goals.
- Avoids dangerous bluffing games.

Transparency of Ends: Defense White Papers. Unlike arms registers, there exists no global push for the official publication of security and defense policy papers. Usually, the theme arises in multilateral discussions on Confidence and Security Building Measures (CSBMs) that seek to diffuse regional security tensions.

- The ASEAN Regional Forum (ARF) advocates defense policy papers, but maintains no consistent program to encourage their production.
- Of major significance is China's effort, which originally concerned arms transfers, but is becoming mature with each new edition.
- Other Asia-Pacific countries with defense policy papers include Australia, Japan, New Zealand, South Korea, Taiwan, Thailand, and Singapore.

Transparency of Ends: Official Webpages. Major official statements on strategy and capabilities are quietly appearing on government websites. Foreign ministries identify national security priorities and international concerns. Defense agencies then supplement policy statements with information on organization, capabilities, and budgets. Taiwan, India, Sri Lanka, and Singapore have already produced significant security and defense webpages.¹²

Security Cooperation

Cooperation traditionally includes the bilateral maintenance of allies, friends, and treaties of amity that are expressed in mutual trade of goods and services, assistance, and burdensharing. From a multilateral viewpoint, the Asia-Pacific region does not have either the rigidity of a NATO-like organization nor a two-way polarity as in the Cold War. Many of the region's multilateral efforts focus on economic cooperation, as is the purpose of the Asia-Pacific Economic Cooperation (APEC) and of the Pacific Basin Economic Cooperation (PBEC) organizations.

Expanded opportunities for regional security dialogue about security objectives are developing slowly at both the official level and the non-government level. Examples include:

- The ASEAN Regional Forum (ARF) is an official process established at the ASEAN post-Ministerial Conference in July 1993. ARF attempts to address confidence building measures and some transparency efforts.
- An example of non-governmental security cooperation is the Council for Security Cooperation in the Asia-Pacific (CSCAP), which brings together academic and government personnel on an unofficial basis. North Korea has been an occasional participant in CSCAP.

Numerous opportunities exist whereby three or more countries may wish to come together to pool resources and solve problems on a functional basis.

- These opportunities include transnational issues such as terrorism, piracy, drugs, organized crime, and environment.
- Direct military functions such as search-and-rescue, communications, and interoperability also can serve as a reason to cooperate. These functional security communities form a basis for broader cooperation.¹³
- Broader multinational issues for security cooperation include conflict resolution, disaster consequence management, and law enforcement.

Rather than having one cooperative organization suiting all functions, the Asia-Pacific region may be more amenable to topically oriented organizations that often may be only temporal in nature.

Conclusion

Surveying Asia-Pacific defense establishments from the point-of-view of governance suggests that while traditional methods of corporate governance can have fruitful application to the internal management of defense, the external interfaces of defense establishments are quite different. Indeed, competition among defense establishments is something to be achieved with discipline and restraint. Nevertheless, the explicit management of strategic interactions among government, the military, and the population is of paramount importance.

This survey's empirical collection of examples suggests that the following principles of governance can promote stable international economic and security relations.

Defense Economics. Defense establishments should:

- Constantly seek a balance of ends, ways, and means—which benefits not only defense, but also the broad macro-economy.
- While aligning strategic purposes with available resources, balance the one-time costs with recurring costs.

External Relationships. Governments should:¹⁴

- Maintain separate organizations for internal and external security.
- Regarding internal security practices, maintain a balance between the application of force and the application of justice.
- Ensure a high degree of oversight of armed forces by government and civilian powers.
- Encourage a high degree of transparency of strategic purpose and resources to avoid miscalculations by others.
- Regarding security cooperation, at a minimum establish communication lines, and then also encourage bilateral and multilateral efforts that promote self-defense, internal security, and global economic stability.

Endnotes

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- 7 James Mulvenon, *Soldiers of Fortune: The Rise and Fall of the Chinese Military-Business Complex, 1978-1998, 2000*.
 - 8 A brief review of the literature reveals the need for a more comprehensive appraisal of Asian transparency efforts. In particular, these appraisals should articulate the costs, benefits, options, criteria, and roadmaps that increase transparency in the region's strategic dialog.
 - 9 Since this discussion focuses in a holistic way on strategic transparency, it does not address other—extremely important—sub-elements concerning weapons nonproliferation or regional security issues. Department of State, *Bureau of Nonproliferation Fact Sheets*. (www.state.gov/www/global/arms/bureau_np/factsheets_np.html).
 - 10 The *UN Register of Conventional Arms* is a voluntary annual report by member states on their arms imports and exports (in numbers of units) of seven categories of weapons—battle tanks, armored combat vehicles, large caliber artillery, combat aircraft, attack helicopters, warships, and missiles and missile launchers. See U.S. Department of State, *Annual Report on Military Expenditures 1999* and also U.N. Department for Disarmament Affairs, *United Nations Register of Conventional Arms*, (www.un.org/Depts/dda/CAB/).
 - 11 The UN system for the voluntary reporting of standardized military expenditure (MILEX) data provides a detailed reporting matrix and instructions, with countries invited to submit as much detail as they choose. Data submissions are not subjected to any analysis, processing, or checking beyond that needed for forwarding the data to the UN General Assembly. The information requested is actual military expenditures for the latest available year, rather than budgeted military expenditures for the current year. See U.S. Department of State, *Annual Report on Military Expenditures 1999*.
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APPENDIX A
KEY ECONOMIC INDICATORS

Economy	Population 2000 (Mil)	GNP (PPP-basis)		GNP (Exchange Rate-basis)		% GDP Growth		U.S.	U.S.
		Per Capita 2000 (\$)	Total 2000 (\$B)	Per Capita 2000 (\$)	Total 2000 (\$B)	2000	2001	Exports 2000 (\$M)	Imports 2000 (\$M)
Key Sources:	WB/CIA	WB/CIA	WB/CIA	WB/CIA/ADB	WB/CIA/ADB	IMF	IMF	DoC	
ASIAN DEVELOPING & NIEs	3,214.273	3,546.995	11,401.009	1,052	3,381.188	6.8	5.8	135,208	299,507
1 AFGHANISTAN *	26.550	791 (a,b)	21.000	791	21.000			8.2	0.8
2 BANGLADESH	129.754	1,588	206.113	368.9	47.864	6.0	5.5	239	2,418
3 BHUTAN	0.805	1,439	1.158	605.0	0.487	6.1	n.a.	1	1
4 BRUNEI	0.328	16,378	5.372	14,774.4	4.846			156	384
5 BURMA	41.735	1,526 (a,b)	63.700	1,526.3	63.700	5.5	n.a.	17	471
6 CAMBODIA	12.021	1,429	17.176	266.8	3.207	4.0	n.a.	32	826
7 CHINA, PR	1,261.100	3,983	5,023.239	856.4	1,079.954	8.0	7.5	16,185	100,018
8 FIJI	0.810	4,690	3.799	1,845.7	1.495	4.9	n.a.	23	147
9 FR. POLYNESIA	0.234	23,509	5.501	16,790.6	3.929			94	44
10 GUAM	0.155	20,645 (a,b)	3.200	20,645.2	3.200				
11 HONGKONG	6.798	25,247	171.631	24,016.0	163.261	10.5	0.6	14,582	11,449
12 INDIA	1,015.923	2,405	2,443.184	471.9	479.404	6.0	4.5	3,667	10,687
13 INDONESIA	210.421	3,051	641.973	728.3	153.255	4.8	3.0	2,402	10,367
14 KIRIBATI	0.092	826 (a)	0.076	472.5	0.043	(1.7)	n.a.	5	1
15 KOREA, S	47.275	17,427	823.872	9,671	457.219	8.8	2.5	27,830	40,308
16 LAOS	5.216	1,596	8.325	327.6	1.709	5.7	n.a.	4	10
17 MACAU/MACAO	0.442	16,629	7.350	13,830.3	6.113			71	1,266
18 MALAYSIA	23.260	9,132	212.417	3,840.1	89.321	8.3	1.0	10,938	25,568
19 MALDIVES	0.276	5,228	1.443	1,576.1	0.435	5.6	n.a.	6	94
20 MARIANA IS., N	0.072	12,515 (a)	0.900	7,277.8	0.524				
21 MARSHALL IS.	0.052	2,019 (a)	0.105	1,846.2	0.096			60	5
22 MICRONESIA, F.S.	0.118	2,034 (a)	0.240	1,932.2	0.228			29	14
23 MONGOLIA	2.398	1,762	4.226	406.6	0.975	1.1	1.4	18	117
24 N. CALEDONIA	0.213	21,850	4.654	14,352.1	3.057			19	31
25 NAURU	0.012	4,981 (a,b)	0.059	4,981	0.059			4	1
26 NEPAL	23.920	1,362	32.568	227.8	5.450	6.5	n.a.	35	229
27 PAKISTAN *	138.080	1,921	265.228	446.6	61.673	3.9	3.9	462	2,167
28 PALAU	0.019	6,789 (a)	0.129	7,578.9	0.144			18	14
29 PHILIPPINES	75.580	4,003	302.582	994.8	75.186	4.0	2.5	8,799	13,935
30 PNG	4.807	2,387	11.475	834.4	4.011	0.3	n.a.	23	35
31 SAMOA, AM	0.065	7,640 (a,b)	0.500	7,639.9	0.500				
32 SAMOA, W.	0.169	5,083	0.859	1,396	0.236	6.8	n.a.	64	6
33 SINGAPORE	4.018	28,228	113.422	22,960	92.252	9.9	(0.2)	17,806	19,178
34 SOLOMON ISL	0.442	1,665	0.736	622	0.275	(1.0)	n.a.	6	1
35 SRI LANKA	19.360	3,503	67.815	847	16.402	6.0	n.a.	205	2,002
36 TAIWAN	22.191	17,394 (a,b)	386.000	17,394	386.000	6.0	(1.0)	24,406	40,503
37 THAILAND	60.728	6,406	389.018	2,008	121.927	4.4	2.0	6,618	16,385
38 TONGA	0.100	2,250 (a)	0.225	1,540	0.154	1.5	n.a.	8	5
39 TUVALU (99est)	0.011	1,070 (a,b)	0.012	1,070	0.012				
40 VANUATU	0.200	3,165	0.633	1,205	0.241	4.0	n.a.	1	1
41 VIETNAM	78.523	2,026	159.094	399	31.344	5.5	4.5	368	821
INDUSTRIAL CTYS									
42 US	281.550	34,260	9,645.916	35,102	9,882.842	4.1	1.3	-	-
43 CANADA *	30.735	28,199	866.685	22,435.3	689.549	4.4	2.0	178,941	230,838
44 JAPAN	126.770	26,172	3,317.763	36,894.4	4,677.099	1.5	(0.5)	64,924	146,479
45 AUSTRALIA	19.195	26,129	501.548	20,527.4	394.023	3.8	2.3	12,487	6,444
46 NEW ZEALAND	3.831	20,336	77.907	13,047.0	49.983	3.7	1.8	1,982	2,086
OTHER COUNTRIES									
47 RUSSIA *	145.542	8,396	1,222.013	1,725.2	251.092	8.3	4.0	2,092	7,659
48 N. KOREA	21.688	1,014 (a,b)	22.000	1,014	22.000	-3, 1.3		3	0
49 COMOROS	0.558	1,493	0.833	362.0	0.202	(1.1)	n.a.	0.7	3.5
50 MADAGASCAR	15.523	832	12.982	259.0	4.020	4.8	n.a.	15.4	157.8
51 MAURITIUS	1.186	10,018	11.881	3,795	4.501	3.6	n.a.	23.9	285.9
52 SEYCHELLES	0.081	7,415	0.601	7,679.0	0.622	1.2	n.a.	7.1	8.1
* Not in USPACOM area (a) - CIA "World Factbook," PPP est.; (b) - Exch. est not available (PPP used)									
SUMMARY									
4 NIE'S (HK,SG,TW,SK)	80.282	18,621	1,494.925	13,686	1,098.732			84,624	111,438
SE ASIA(w/o Singapore)	466.077	3,725	1,735.957	1,032	480.795			29,316	68,296
S. ASIA	1,396.403	2,222	3,102.209	499	696.415			4,640	18,069
PACIFIC IS.	7.499	4,294	32.203	2,358	17.680			358	304
ASIAN DCs+ NIEs	3,214.273	3,547	11,401.009	1,052	3,381.188	6.8	5.8	135,208	299,507
ASIA-PACIFIC REGION	3,385.757	4,525	15,320.227	2,518	8,524.293			214,604	454,516
INDIAN OCEAN	17.348	1,512	26.237	539	9.345			47	455
USPACOM	3,238.475	4,650	15,060.235	2,610	8,450.965			214,181	452,804
WORLD	6,054.431	7,600	46,011.733	5,331	32,274.667			781,917	1,218,022
MEMO:									
ASEAN(10)	511.830	3,738	1,913.079	1,244	636.747			47,139	87,945
MEXICO (in APEC)	97.966	9,035	885.127	5,864	574.512	6.9	0.8	111,349	135,926
CHILE (in APEC)	15.211	9,427	143.390	4,649	70.710	5.4	4.0	3,460	3,269
PERU (in APEC)	25.661	4,864	124.824	2,100	53.882	3.1	0.5	1,660	1,995
APEC (21)	2,350.736	10,043	23,608.538	8,097	19,034.566			502,941	804,479
EUROPEAN UNION	457.558	21,373	9,779.522	18,319	8,381.936	3.4	1.8	165,065	220,019
MID. EAST	245.923	5,330	1,310.883	2,941	723.316			19,006	38,962
W. HEMIS. DEVEL.	517.446	7,245	3,748.769	3,913	2,024.864	4.2	1.7	59,283	73,348

APPENDIX B GLOSSARY

ACDA	Arms Control and Disarmament Agency
ADB	Asian Development Bank
AFTA	ASEAN Free Trade Agreement (or Area)
AOR	Area of Responsibility
APEC	Asia Pacific Economic Cooperation
ARF	ASEAN Regional Forum
ASEAN	Association of Southeast Asian Nations
BEM	Big Emerging Market
BTU	British Thermal Units
CIA	Central Intelligence Agency
CINC	Commander in Chief
CSCAP	Council for Security Cooperation in the Asia Pacific
DIA	Direct investment abroad (i.e. sent abroad)
EEZ	Exclusive Economic Zone
EIA	Energy Information Administration
ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union
EW	Electronic Warfare
FDI	Foreign direct investment (i.e., coming from abroad)
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GMS	Greater Mekong Subregional economic cooperation project
GNP	Gross National Product
IGM	International General Meeting
IISS	International Institute for Strategic Studies
IMB	International Maritime Bureau
IMET	International Military Education and Training
IMF	International Monetary Fund
IMO	International Maritime Organization
IMT-GT	Indonesia-Malaysia-Thailand Growth Triangle
IPR	Intellectual property rights
MFN	Most Favored Nation
MBD	Million Barrels per Day

MMT	Million Metric Tons
NAFTA	North American Free Trade Agreement
NDU	National Defense University
NEACD	Northeast Asia Cooperation Dialogue
NGO	Nongovernmental organization
NIE	Newly Industrialized Economy
NIS	Newly Independent States
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
PACTAD	Pacific Trade and Development Conference
PBEC	Pacific Basin Economic Council
PECC	Pacific Economic Cooperation Conference
PMC	ASEAN Post-Ministerial Conference
PNG	Papua New Guinea
PPP	Purchasing Power Parity
PRC	Peoples Republic of China
ROK	Republic of Korea
SAARC	South Asian Association for Regional Cooperation
SAPTA	South Asian Preferential Trade Arrangement
SCS	South China Sea
SIJORI	Singapore-Johor-Riau growth triangle
SIPRI	Stockholm International Peace Research Institute
SMEs	Small and medium-size enterprises
SOM	Senior Officials Meeting
SPC	South Pacific Commission
SPF	South Pacific Forum
TEU	Twenty-foot Equivalent Units (shipping)
TRIPS	Trade-Related Aspects of Intellectual Property Rights
USAID	U.S. Agency for International Development (now State Dept.)
USCINC PAC	Commander in Chief, U.S. Pacific Command
USTR	U.S. Trade Representative
WTO	World Trade Organization